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# IOWA CONSERVATIONIST

VOLUME I

NOVEMBER 15, 1942

NUMBER 10

## Modern Day Conservation Officer No Warden

In early England and continental Europe, the title to wildlife was in the crown. The royal forests were full of game, and royalty enjoyed marvelous hunting—hunting protected by paid foresters. Along the edge of these hunting preserves, serfs and peasants farmed. During bad years, to keep from starving, they poached in the royal forests and were often caught by the king's foresters. The penalty for poaching in those days was horribly severe. History is full of instances where poachers were hanged and drawn and quartered, the quarters being hung short distances apart along the public highway to act as a warning to other starving peasants who might be tempted to steal some of the king's game.

Robin Hood was a poacher, and one of the legendary heroes of the English people. He gained considerable popularity by, among other things, shooting arrows through the game keeper's mid-section.

It is small wonder that a forester or game keeper was despised, when it was his job to protect the king's sport and to murder a man who poached a deer to keep his children from hunger.

Most of the American colonists were descendants of European peasants, and they brought to America a suspicion of, if not hatred for, game laws and game keepers. Here they found the forests full of game. They could take all they wanted any time and in any manner.

They also found that game was an absolute necessity. The small fields of corn, beans, and pumpkins hewn out of the wilderness would not produce enough food to last through the long winters,

## Relieve Your Meat Shortage... Eat Those Rabbits This Year



Fried corn-fed cottontail, cornbread andlasses will be this rabbit hunter's toothsome reward.

and wild deer, bear, and turkey had to supplement domestic produce. It not only had to supple

ment their domestic supplies, but it had to be almost at their back  
(Continued to Page 3, Column 2)

## Danger Of Tularemia Less Now Than In 1939

By DR. GEORGE O. HENDRICKSON

Some years back, all through corn picking time, our appetites were whetted with thoughts of fried rabbits. The bunnies scampered through the fields, but we were not permitted to shoot them until all the corn was in the crib. Then, about Thanksgiving time, we were allowed to hunt. Fried corn-fed young cottontail with corn bread! It was a fine reward for having finished the year's farm work on time.

In those days the rabbits were healthy. At least we didn't get sick from handling and eating them. Tularemia was not known in Iowa until 1927, and was not spread widely in the state before 1938. In 1939 the disease was at its height among both cottontails and humans, particularly in the southeast part of the state. Some farms, some townships, and even some counties had many sick rabbits, and at the same time neighboring farms, townships and counties had few or no sick cottontails. That is, even at its height the disease was not prevalent everywhere in any region of the state.

By 1941 tularemia had about run its course, although there are some signs of the disease yet in 1942, both in northern and southern counties.

We may expect tularemia to stay with us. We may expect it to be prevalent in many localities for two or three years at five-to ten-year intervals when food, cover and weather conditions are  
(Continued to Page 2, Column 1)



## IOWA CONSERVATIONIST

Published Monthly by  
THE IOWA STATE CONSERVATION  
COMMISSION

10th & Mulberry—Des Moines, Iowa  
JAMES R. HARLAN, Editor  
F. T. SCHWOB, Director  
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## Eat Those Rabbits

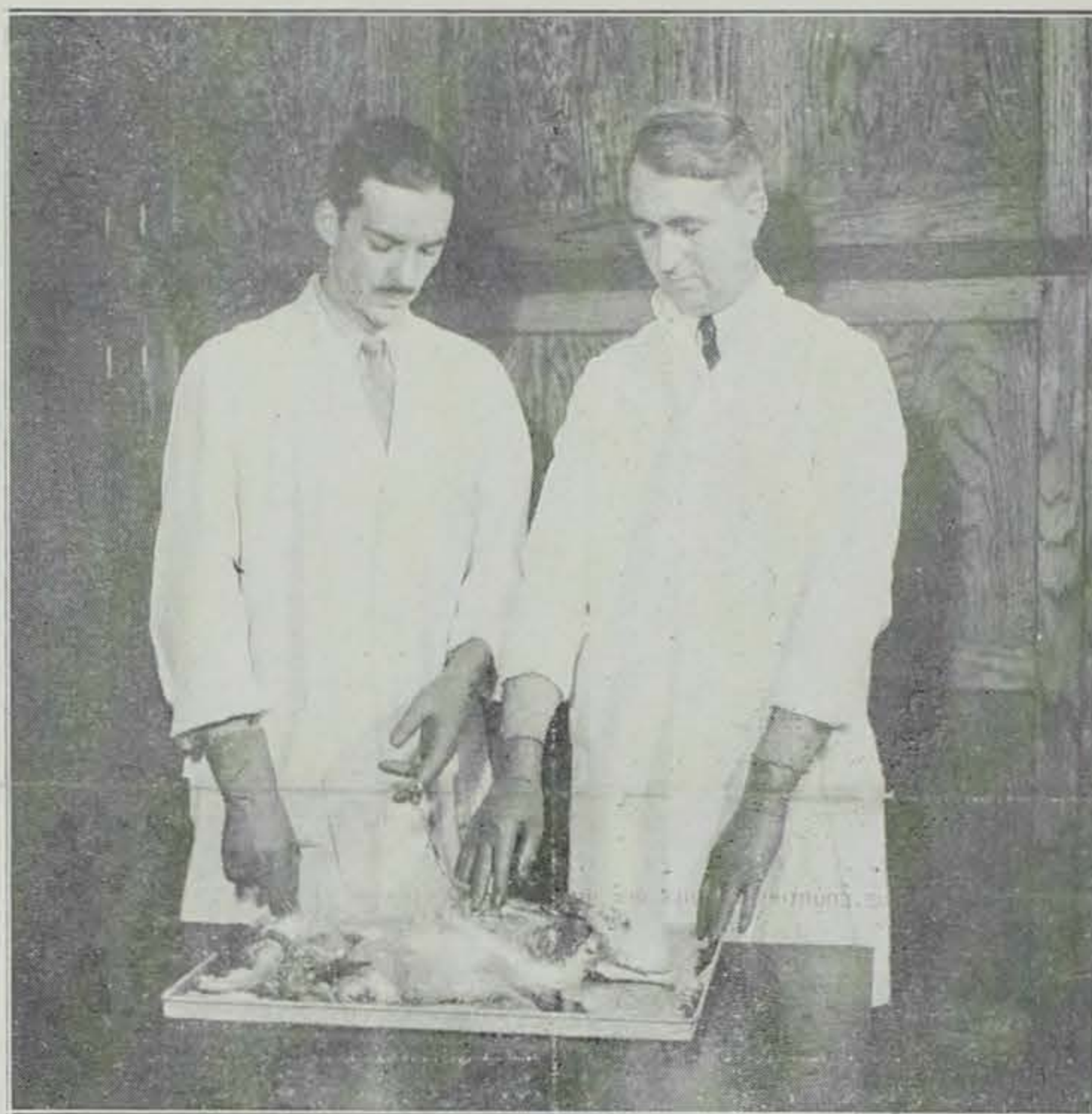
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favorable to the production of large numbers of cottontails. Perhaps environmental conditions may remain unfavorable for large crops of rabbits for a period of 10 years at occasional spaces of time. Then we may have small but quite healthy cottontail crops. It is not likely that tularemia will be prevalent for a 10-year period because it cuts the cottontail numbers down so quickly.

We know that cycles of dry and wet years occur, and that some winters are more severe than others, but they cannot be predicted with certainty from year to year. Likewise we cannot predict exactly the years of large populations of cottontails which we may expect to be followed by rapid decreases because of unfavorable natural conditions or a disease, such as tularemia.

What is the nature of tularemia in man? As with many other diseases, undoubtedly some cases are so light that a physician is not called, for the busy, dutiful man or woman has formed the habit of continuing at work although not at the peak of physical condition. However, in some cases tularemia becomes a serious and painful dis-

## Handle Diseased Rabbits With Care



—Iowa State College Photo Service.

Drs. George O. Hendrickson and Jose Carvalho, Department of Zoology and Entomology, Iowa State College, illustrate care taken in the examination of a diseased rabbit in the laboratory.

ease in man. Further detailed information in answer to this question may be obtained from Iowa Public Health Bulletin, Vol. 54, No. 3, 1940, an issue devoted to tularemia and prepared by Dr. Carl F. Jordan, Director, Division of Preventable Diseases, State Department of Health, Des Moines.

What is the health condition and number of the rabbit crop now? In northern counties the cottontails are generally more numerous than during the last five years. Although there is probably some tularemia in each northern county, conservation officers, research workers, and other field men do not report finding dead rabbits, and hence it is probable that the disease is not widespread. In some southern counties from which the cottontails were nearly wiped out two to five years ago by tularemia, the cottontails are increasing measurably, but apparently the 1938 peak of some 1,000 rabbits to a section in the best cover has not been reached anywhere yet. In other southern counties where the severe winter of 1939-40 lowered the numbers, the population is again up, but not to a peak yet. Generally speaking, tularemia is not widespread in southern counties now.

Our cottontails, then, are increasing, but are not at peak populations in many localities and are quite healthy in comparison with the 1937-39 conditions. Even when tularemia was at its height

among rabbits, probably not more than two percent of the population in any given area had the disease at the same time.

Four years ago, when our national meat supply was plentiful and low in price, many cottontails were wantonly shot and left lie the hunters not caring to take the trouble to wear rubber gloves in dressing the animals. Now not only is our domestic meat supply less plentiful and higher in price, but a surplus is needed for our own and allied armed forces. We who remain at home must seriously consider wise use of our surplus wildlife meat supply. If we can eat cottontails safely, let's eat them.

When shall we hunt cottontails to avoid disease? After some days of cold, freezing weather, say normally about December 1 in northern counties, and December 15 in southern counties, we have found the rabbits quite free from tularemia. The cold weather causes the rabbit ticks, the chief agents in carrying the tularemia germs from one rabbit to another, to leave their hosts and hibernate until spring, when some of them go back to the cottontails. Occasionally we have a November as cold as an average December; again, December may be very open, especially in southern Iowa. Hence we cannot give a safe date to hold true every year. In general, wait to hunt cottontails until the weather is snappy cold and there is good tracking snow. So

far as our studies have gone to date, tularemia did not appear in the cottontails in spring in northern counties, but did in southern counties. Hence, we would advise not taking rabbits after March 1. Also, after that date the breeding season is well advanced and the seedstock needs protection. Then December, January and February are the months in which to find the greatest percentage of healthy rabbits.

Is it true that fast-moving cottontails are healthy? A cottontail with a bad case of tularemia may move moderately fast, but probably will not lift its head well off the ground. Hence it may appear to just push itself across the field rather than bound briskly away from you. After dragging its way 25 to 50 yards, a sick rabbit frequently turns over on one side and goes through a few minutes of spasm, quivering all over. These chills are symptoms of the high fever characteristic of tularemia. So far as we know, **every cottontail that gets tularemia dies within 15 days of the onset of the disease.** The rabbit may be able to run well during the first two or three days of its illness and yet contain enough of the tularemia germs to be dangerous to handle carelessly. In good weather a healthy rabbit is easily put up as a rule. A sick rabbit has a tendency to stay in its form, and because a rabbit does not blink frequently, one gets the idea that the cottontail is dead, sitting with eyes open. Often I have had to punch a sick rabbit several times with a stick to get it to move. The rabbits I have seen dead with tularemia, several hundred, were stretched out on their sides and usually under brush, a log, or some other object that served as protective cover, and occasionally near or just in the mouths of burrows.

How shall I handle and carry a cottontail to avoid disease? Because the dead rabbit usually has some blood on its hair and the blood may contain tularemia germs, it is advisable to pick it up with gloved hands. In carrying the rabbit, do not let the animal rub against a pants leg or other part of your clothes which may become blood-soaked, chaff your skin underneath and permit the germs of tularemia, if present, to enter your blood stream. It is best to carry the rabbits in a sack or container which does not touch your garments as you carry it. The gloves used in handling rabbits should be washed with soap and water, at least. You may wish to use additional disinfectant, and many advise it. Good soap used freely is a good disinfectant in itself. We have picked up and carried about 100 rabbits **which had tularemia** in the manner described without contracting the disease.

(Continued to Page 3, Column 1)



## Eat Those Rabbits

(Continued from Page Two)

How shall I dress a rabbit and play safe? We will not recount here methods for skinning, etc., because they are well known, but I will add special precautionary suggestions. In the manner to be described we have handled about 200 dead rabbits, which had lesions of tularemia, without ill effects. With rubber-gloved hands we have placed a rabbit on a low table, which kept the animal nearly three feet from our faces, and placed ourselves so that the currents of air tended to carry loose rabbit hair away from us. In cutting and examination operations, we worked slowly and without jerky movements to avoid splashing rabbit blood into our eyes, nostrils, or mouths. We took especial care that splintered bones did not pierce the glove and the skin of the hands. The table was washed thoroughly with hot water and disinfectant, and the diseased carcasses were burned. The gloves and our hands were washed as well, immediately after the examinations.

What are the signs of tularemia inside a rabbit? At least the spleen is apt to be swollen to the size of your little finger, about two to three times its normal size, and to be dotted with few to many small pinhead size white spots. The liver very often has few to many small white spots. Generally, tularemia dots are so numerous on the liver and spleen, or portions of them, that the organs appear to be peppered with the white spots.

Does thorough cooking destroy the germs? Thorough cooking destroys the germs. Especially in frying, one should take care that thick pieces are well cooked all the way through.

We shall not give detailed cooking directions. No doubt your cook knows how to do the job perfectly to your taste without directions, even from you. Some say freezing the carcass improves the taste, some soak it in salt water over night, and some parboil the meat. Everyone to his own palate.

Finally, these few rules summarize our advice:

1. Hunt cottontails only during cold weather, in late fall, and in winter.
2. Take only fast-moving cottontails, which probably are healthy.
3. If you handle and dress rabbits with bare hands, afterwards wash the hands thoroughly. Use plenty of soap, and additional disinfectant is advised. We advise your wearing gloves in handling, and rubber gloves in dressing rabbits.
4. When you see small, white spots on the liver or spleen, burn the carcass at once, and wash the hands, knife and utensils more thoroughly than ever.

## Puzzle--Find The Cottontail



—Photo by Jack Musgrove.

In northern Iowa counties rabbits are generally more numerous than during the last five years.

## No Warden

(Continued from Page One)

door, so that during the bitter winter months, long trips in the woods to secure game were not necessary.

With the love of the chase a natural part of every man's make-up, and shortsightedness a characteristic of the human race, wild animals of all kinds were wantonly slaughtered by the very people whose welfare depended on them, and they were driven back farther and farther into the wilderness. But there came a time of summer drought and crop failure, followed by a long winter of heavy snows. Game, the social security of the colonies, had been driven into the inaccessible backwoods. The inevitable happened. Whole settlements died of starvation. Then even our game-law-hating ancestors began to see the light.

Before the Revolutionary War, 12 of the 13 colonies had game law restrictions that prevented taking during certain seasons and banned certain methods of taking. As early as 1775, and as far west as Kentucky, even while the Indians were whooping, scalping and burning up and down the Ohio valley, it was found necessary to enact local protection laws to prevent total destruction of life-saving game by eastern hunters who came west to hunt for fun. Who was, do you suppose, one of the proponents of the first game law in Kentucky? It was

our old friend the Indian fighter, Daniel Boone.

Gradually, as the plow and axe made the fields larger, and domestic livestock filled the meat needs, wild game in America ceased to be a food necessity. That was fortunate, for the very processes required to make the land support large human populations destroyed the homes of the big game animals, and where there are no homes for wildlife, there is no wildlife. When game ceased to be a food necessity and was more or less a luxury, much of its early legal protection disappeared.

America has always been a nation of hunters and gun lovers. American riflemen have been, first, last and always, the outstanding marksmen of the world. Each son has been encouraged to outshine his father in his skill as a hunter and rifle shot, and many a father's proudest boast, even today, is, "My boy is a better shot than I ever was." The right to bear firearms is guaranteed by the Constitution of the United States. To hunt and fish are as much an inalienable right of the American as is his right to freedom of worship. They are rights that no crown can destroy.

The story of the plow, axe and tiling spade are important in the American game picture.

The hunters stayed ahead of agriculture. They stayed ahead of the plow, axe and the tiling spade. They went into the forest nesting grounds of the passenger pigeon. They slaughtered the nesting birds by the hundreds of thousands—yes, by millions—and fed the young to fattening hogs. Following the hunter came the axeman, who removed the tree homes of the birds and planted corn. The passenger pigeon was exterminated. The hunter and

the axeman had exercised an inalienable right.

The hunter went into the marshes and market-hunted the waterfowl. Spring, summer, and fall the slaughter continued. Barreled and shipped to market, the value of ducks and geese was sometimes less than the transportation charges. Then followed the tiling spade. The marshes were drained and destroyed and planted to corn. The home of the waterfowl was gone. The inalienable rights of the gun and the tiling spade had been exercised.

The hunter went on to the prairie, slaughtered the buffalo, piled the skins high on the flat cars of the new Union Pacific railroad and left thousands of tons of carcasses rotting and stinking on the wind-swept grasslands. Then followed the plow, and the home of the buffalo was destroyed and planted to corn. The rights of the rifle and plow were exercised.

It began to be difficult to find game with which to teach a son to wing-shoot. Certain far-seeing legislators began again to experiment timidly with game legislation—and they received a measure of public support. But early protective measures were often offset by improved roads, automobiles, and more effective guns and ammunition. It began to look as if free public shooting in America would be a thing of the past.

Suddenly, like an explosion, public opinion cried loudly, "My grandson will feel the thrill of whistling wings in a frosty marsh! He will have the pleasure of hearing the hounds baying on the bottoms! He will feel the tug of a hooked fish on a light rod! I'll see that he does!"

Protective game legislation began in earnest. Spring shooting and market hunting were eliminated. Limits and seasons were set. License and hundred of other laws were passed.

Into the picture to enforce the new laws came the game warden, the successor to the hated forester of early Europe. He was big and tough, politically appointed, and not always honest. He had one objective—to enforce the game laws as written. Supporting him were the new laws and that small group who said, "Some must be left for my grandson." Arrayed against him was a great host who said, "It is my inalienable right to kill wild game whenever and however I see fit."

He had a tough job. He began the long fight that has ended in the present-day game conservation viewpoint. Murders, beatings, prosecutions, bribes, and jails were part of the show. Enforcement at the end of a pistol stopped the downward trend of American game populations for the first time since colonial days.

To stop the downward trend  
(Continued to Page 4, Column 1)



## No Warden

(Continued from Page Three)

was not enough. Increased numbers of hunters and fishermen demanded an increase in fish and game, and so game production laws began to appear on the statute books.

With these new laws, a new era began. As completely as the disappearance of the horse and buggy, the game warden passed out of the picture. He did a thankless job, and his successors still bask in the blaze of his amazing courage and toughness.

The game warden's successor is the conservation officer, and his objectives are much broader than enforcement only. His objectives are to increase the hunting, fishing and trapping opportunities in the state of Iowa.

Who and what are the game conservation officers? They are the 40 men who are charged with carrying out many phases of the Iowa conservation program, and they have varied backgrounds. They include former barbers, ministers, teachers, farmers, business men, soldiers, salesmen—in fact, they encompass almost 40 different professions.

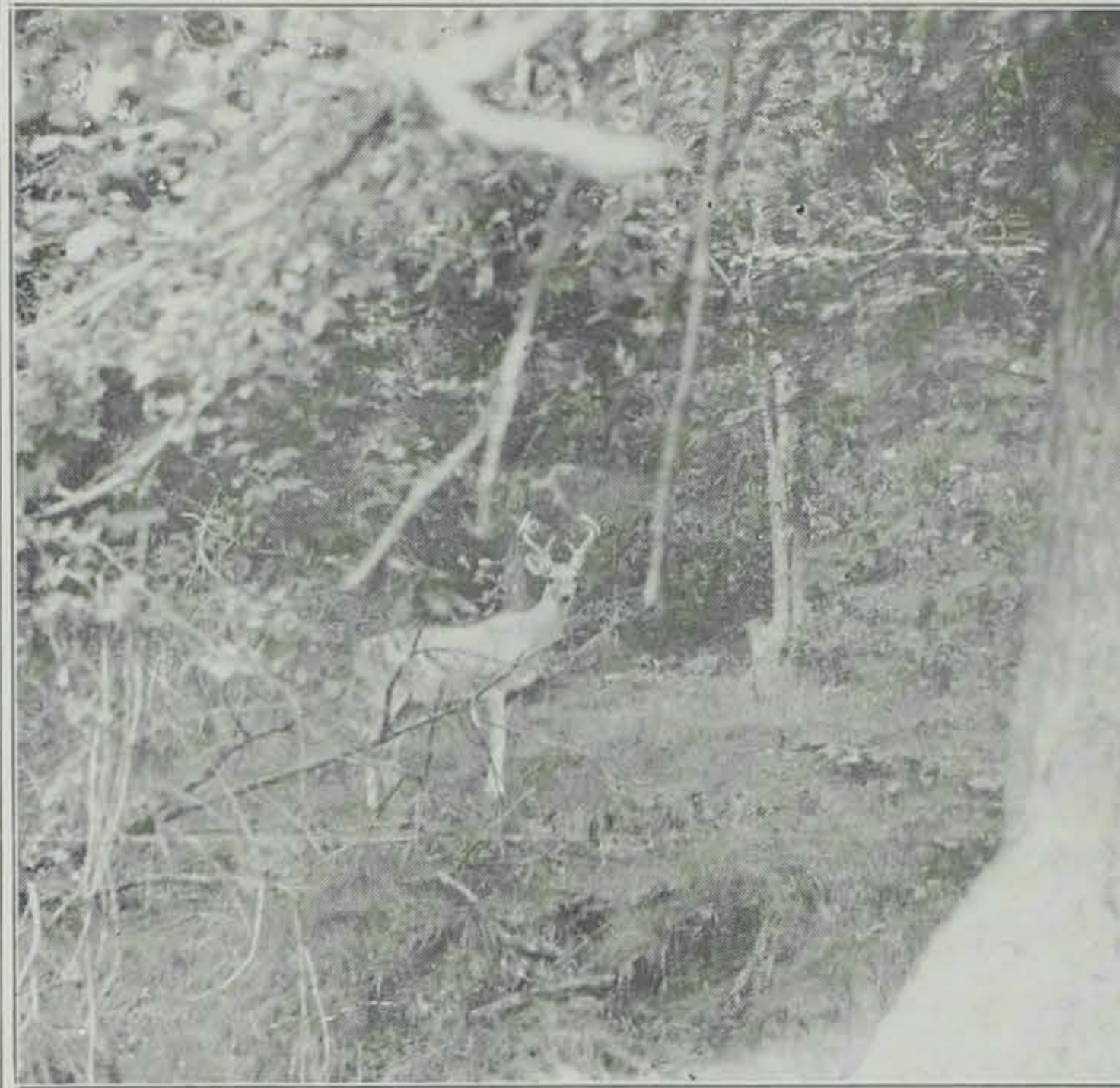
Each year at Des Moines an examination for prospective officers is held. Applicants must be between the ages of 24 and 40, be at least 5 ft. 7 inches tall, be in good health, and otherwise qualified. From 300 to 600 take the examination, which deals rather technically with fish, birds, trees, mathematics, history, geography, and many other subjects. Of this group about 20 passing the examination with the highest grades go to a conservation officers' school for an intensive short course, over which they are given a written examination, a private oral examination, and an extensive character and habits investigation. The average of all these tests is determined, and the highest rating applicant is appointed to the first vacancy. Vacancies occurring annually in the last few years before the war have varied from three to ten. New eligibility lists are made each year. This strict selection of officers is required because men of the very highest caliber are necessary to satisfactorily perform the work of an Iowa conservation officer.

When a new officer comes into a new territory, he usually lays out his work into three general overlapping phases. They are fish and game management, enforcement, and public relations, and they are all pointed at one objective—more hunting, fishing and trapping opportunities.

Fish management in some areas is a very important part of the job.

Fish rescue may be a phase of this work. When streams overflow the bottom lands, they often

## King of the Forest in His Domain



Game, the social security of the Colonist, had been driven into the inaccessible backwoods.

deposit large numbers of desirable fish in the small overflow ponds where they spawn. These ponds contain an abundance of feed, and the fish grow rapidly—but as the season advances, the ponds become shallower and shallower and finally dry up completely, and if left alone, the fish die. Before this last results, it is the officer's job to organize volunteer crews, seine the pond, destroy the rough fish, and move the desirable ones back into the safety of the streams to provide pole-and-line fishing. This is a hot, muddy, back-breaking job, but it is increasing the fishing opportunities. In 1939, conservation officers and their volunteer crews actually placed in good fishing waters 2,723,000 fish that otherwise would have been wasted, fish that have perished in these same pond holes for 10,000 years.

Rough fish removal is another phase of fish management work. In Iowa, with its limited water areas, every water acre must support every pound of game fish that it can be made to support. A pasture will support so many cows. A lake or stream will support so many fish. Fish that will not take a hook must relinquish their places in the streams to their more desirable relatives, who will.

In rough fish-infested waters, the local officer organizes local volunteers, and they remove and destroy these rough fish. In 1939 Iowa officers removed 101,000 pounds of coarse fish.

Lake and stream improvement is another activity. Construction of low-head dams, construction of

spawning areas, stocking minnows where the food supply is insufficient, and dozens of other efforts designed to increase the fish production in a given area, are all part of this work. Construction of fish-rearing units and rearing fish is another phase. Oxygen tests, aquatic vegetation plantings, pollution control, and erosion control, and many other necessary tasks are performed. Your local officer must keep his finger on the pulse of your sport and be its family doctor. Figuratively speaking, he must be able to treat

the cases of measles, mumps and bloody nose, and he must recognize the more serious diseases and then call in a department specialist to correct them.

Iowa has an outstanding game management program, and consequently a conservation officer has a multitude of game management duties. Any effort by which more game is produced than would have been produced before that effort was made, can be called a successful game management activity.

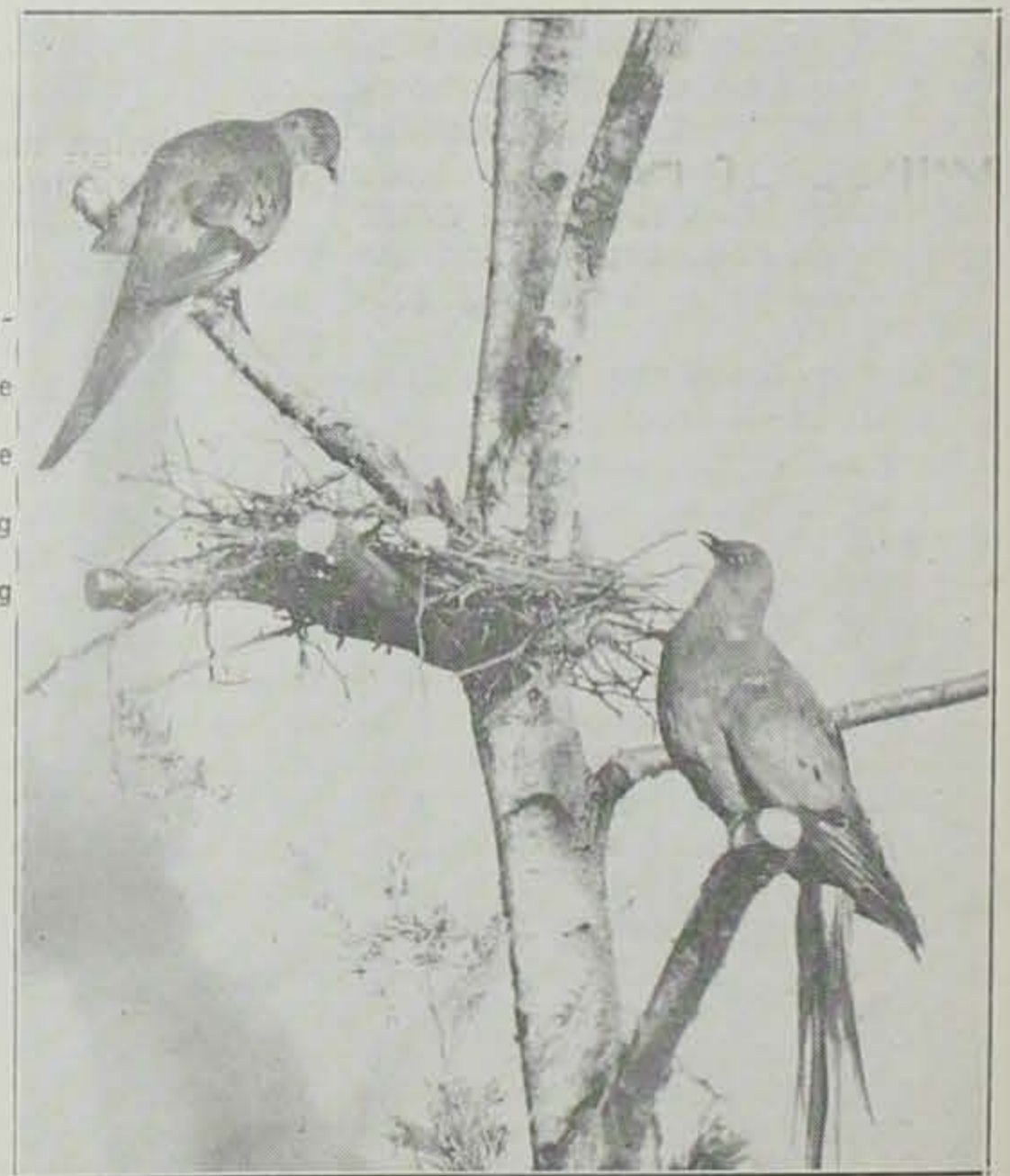
In Iowa cover planting is probably the most important phase of the game management program. If every patch of waste ground, no matter how small, were planted to game cover plants, our annual game crop would be multiplied many times over.

Everyone is familiar with the game bird and animal winter feeding programs that are set up each year, and almost every outdoor enthusiast has participated in this work. Emergency winter feeding depends on the weather, and fortunately the last few years the need has been minor and localized.

Game bird raising and stocking programs are an important phase of the conservation officer's work. The State Game Farm at Boone has been the source of thousands of game birds. Here at the Game Farm pheasants and quail are hatched, and in the case of pheasants, hardened at the game farm for two weeks. They are then sent out to co-operative sportsmen's groups who, under the direction of the game officer, provide raising facilities. The birds are released on co-operating farmers' farms, on which environment improvement, tree-planting, fencing, etc., have been carried out.

(Continued to Page 5, Column 1)

The nesting passenger pigeons were slaughtered by the millions, and the young were fed to fattening hogs.





## No Warden

(Continued from Page Four)

Predator control, removal of excess population, and many other activities are a part of the Iowa game program. In each activity the local officer must be the leader and the organizer.

Public relations, the second phase of the conservation officer's program, in many instances makes the difference between a good and a poor officer. Lincoln, in an early debate with Douglas, said, "Public sentiment is everything. With it nothing can fail. Without it nothing can succeed."

The old game warden stood behind with a pistol and club and tried to drive. A modern conservation officer must be out in front and lead. He must have the confidence, good will, and respect of the citizens in his territory. He must build up a reputation for fairness. In his police work, he must not only be courageous but courteous, and he must avoid any harsh or overbearing attitude. There are times when he must act swiftly and forcefully, and if criticized for his act, his reputation for tact and courtesy will sustain him.

The third phase of the conservation officer's program is enforcement. It is expensive and time-consuming, but it is necessary, and will be necessary until every man respects every other man's rights. When there is no longer a cop on the corner, then the conservation officer will no longer be required to do enforcement work. Most hunters now realize that the game in the field is not the king's game, not the Conservation Commission's game, not the officer's game, but that it is his own game—every man's. He realizes that he must help protect and produce that game if he is to have sport and if his children and their children continue to have hunting pleasures in the field.

## Killing of Deer Not Included

"All out" for national defense does not include the killing of deer during the closed season. Prompted by numerous and authentic reports that soldiers in the rural sections of the state were shooting deer during the closed season, George P. Miller, executive secretary of the California State Division of Fish and Game, contacted the Commanding General, Fourth Army, informing that such practice was in direct violation of the fish and game laws.

We are more than anxious to accord men in uniform who wish to hunt and fish every privilege as a resident of the state, but this does not mean that the fish and

(Continued to Page 7, Column 2)

## "Long Ago-When the World Was Young"



Edgar Poweshiek hears first-hand one of the legendary turtle tales as told by Me-shi-ke.

## Me-Shi-ke, The Turtle, A Very Tasty Fellow

By EVERETT B. SPEAKER,  
Superintendent of Fisheries

In recent years snapping turtles have become a very popular food in homes and in clubs throughout America. With meat rationing just around the corner, this fine food will probably be in more demand than ever, and although it has been enjoyed by epicures for several generations, it is a relatively new dish for all except the Indians, whose table it has graced for centuries. According to Jonas Poweshiek, a member of the Sac and Fox tribe at Tama, Me-shi-ke, the snapping turtle, is one of the most interesting figures in Mesquakie Indian legends.

Many years ago Me-shi-ke was held in high esteem by the Indians, and although his parents were turtles the same as today, he was granted the spiritual and physical qualities of man. As a man he became very egotistical and mischievous and was involved in many affairs of the heart. He became a constant worry and trouble to his associates, but because of the watchfulness of his creator, the spirit Wi-sa-ke, he continued to be of importance and to keep out of serious trouble.

Finally Me-shi-ke met his Waterloo in the following way:

He was to participate in a great foot-race, the winner of which was to receive the daughter of the chief of the tribe as his prize. Since he was pitted against many very fast rivals, he feared defeat and asked the spirit for assistance. Wi-sa-ke graciously loaned him his buffalo robe, gourd, and the necessary medicines by which

he easily won.

The turtle, overwhelmed by the powers of these articles, was not content to merely borrow them, but wanted them for his own. Several attempts to steal them were unsuccessful. Finally one night, while sleeping in the spirit's wick-i-up, Me-shi-ke succeeded in stealing them. He donned the buffalo robe and hid the gourd and medicines underneath. Then he ran. He travelled all night at great speed, and as the dawn was breaking concealed himself in a large driftwood windfall. The same dawn awakened the spirit, Wi-sa-ke, and he found the stupid Me-shi-ke and the stolen articles partly hidden in the firewood pile of his tepee. The powerful medicine had made the turtle believe he was fleeing, but in actuality he had run in a circle all night long and had never left the wick-i-up of the spirit. Wi-sa-ke, who had forgiven many past indiscretions, became very angry, changed him again into the snapping turtle we know now, threw him into the water, and proclaimed, "From this day on, your flesh and the flesh of the other members of your clan shall be meat for all men."

Since earliest times the Mesquakie Indians have searched the streams and lakes for snapping turtles for winter food. They wade the streams, sounding the bottom with a stick or iron rod, searching likely places in pools and near the drifts. The turtles captured are taken into the village, where those not used for food immediately are stored alive in pits until needed.

Soft-shelled turtles, ba-ba-ki, are also taken for food when found. They are more difficult to capture, however, and are held in less esteem as food than the snapping turtle. The common painted turtle, ma-qua-ke, is not

eaten by the Sac and Foxes, and it is said their flesh is strong and often bitter. The eggs of both snapping and soft-shelled turtles also are gathered by the Indians and used for food and are said to be superior to hen eggs in flavor.

There are literally tons of snapping turtles in the lakes and streams of Iowa, and this valuable food can and should be harvested. It can be eaten fresh, or sharp-frozen and kept in cold storage lockers. It has a fine texture and extremely delicate flavor, comparable to chicken or young veal. It can be served in place of domestic meats, which will soon be rationed.

Harvesting turtles serves a two-fold purpose, since it not only furnishes an excellent and valuable food, but also aids in the destruction of a fierce predator. A considerable portion of the snapping turtle's diet is fish and aquatic animals. It also preys on wild ducklings and other water and shore birds.

There are several methods of preparing turtle for the pan. With a little practice it is easy to dress one. By lifting the turtle off the ground by its tail, its head will protrude and can be easily cut off with a sharp axe. It should be allowed to bleed freely for about half an hour. The most simple way to dress out the dead turtle is to turn it on its back and proceed as follows: Insert a very sharp knife through the skin at its junction with the upper shell and cut completely around the under side of the top shell. It makes little difference where the knife is started, but it should follow the outline of the top shell as closely as possible. The top shell should be separated from the lower shell by running the knife through the tough cartilage which connects the two. This cartilage is immediately below the top shell and can be severed easily. Next the turtle is turned over (the lower shell being down) and the top shell lifted off. The four feet are then cut off at the first joint. The skin from the legs, neck and tail can be pulled off or may be removed more easily by pouring scalding water over it. The next step is to remove the turtle meat from its attachments to the lower shell. The most important pieces to save are the legs, the neck and the tail. There are two tenderloins in the back, however, which are delicious and well worth saving on the larger animals.

The pieces may be cut up in much the same manner as chicken or other fowl. Some prefer to leave the bone intact, while others remove it from the meat. Either is satisfactory.

The following "tried, tested and approved" recipes may help you enjoy this rare delicacy. They are all delicious, but we recom-

(Continued to Page 6, Column 1)



## The Turtle

(Continued from Page 5)

mend that you try sauteed or fried turtle first. It is our favorite recipe.

### Sauteed or Fried Turtle

Pour about  $\frac{1}{2}$  cup of flour into a No. 6 (medium) paper sack. Add  $1\frac{1}{2}$  teaspoons of salt and  $\frac{1}{8}$  teaspoon pepper. Place a few pieces of turtle at a time in the sack and shake well. When all pieces of turtle have been well floured, proceed to fry as follows: Melt  $\frac{1}{2}$  cup of lard or vegetable fat in a medium-sized frying pan. When hot, drop in pieces of turtle and brown rapidly on both sides. Reduce heat, place cover on pan, and add  $\frac{1}{2}$  cup of water. Cook slowly until meat is very tender. This will depend somewhat upon the size of the turtle. The procedure is exactly the same as frying chicken. If desired, turtle meat can be placed in an oven after it has been browned instead of completing the process on top of the stove in the frying pan.

### Fricasseed Turtle

Place the jointed turtle meat in a stew pan or kettle. Add one large sliced onion, 2 or 3 large bay leaves, 4 or 5 cloves,  $\frac{1}{2}$  cup celery leaves, 2 teaspoons salt, and  $\frac{1}{8}$  teaspoon pepper. Cover with boiling water and simmer in covered kettle until tender. This usually requires from  $1\frac{1}{2}$  to 2 hours. When meat is tender, remove bay leaves, cloves and celery leaves. Add two tablespoons flour, which have been previously mixed to a smooth paste in cold water, for each pint of turtle broth. Cook slowly for five minutes and add salt and pepper to taste. Serve with hot biscuits—it's swell!

### Mock Chicken Legs

Place alternate cubes of turtle meat and veal (or all turtle if you prefer) on wooden skewers. Roll them in seasoned flour. Drop in deep hot fat and brown rapidly. Remove from the deep fat and arrange in a casserole or baking dish. Add a small amount of water, cover, and place in the oven at about 350 degrees F. until tender. This will require about 1 to  $1\frac{1}{2}$  hours.

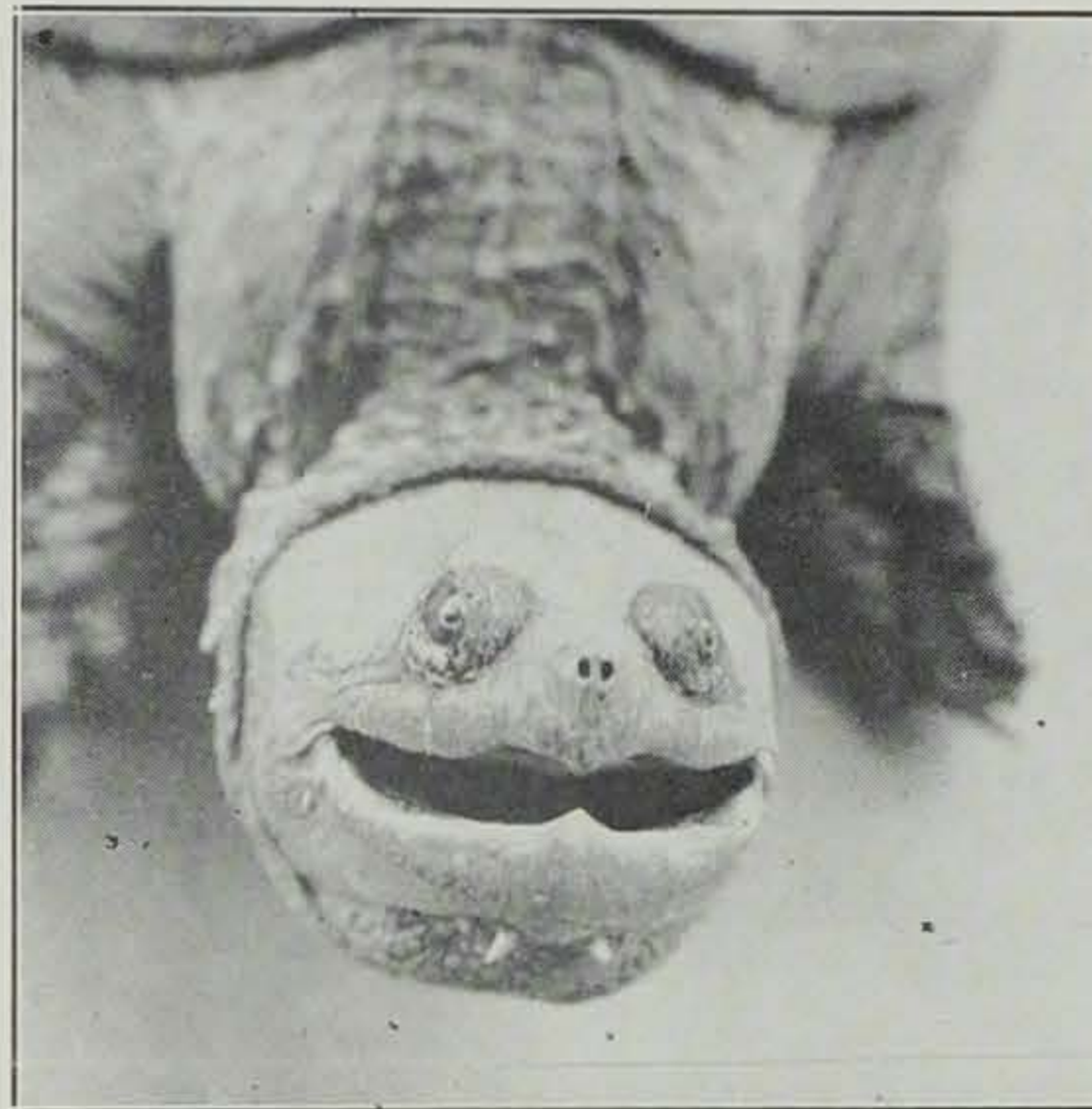
### Jellied Turtle Salad

2 tablespoons granulated gelatine.  
3 cups hot turtle broth or soup stock.  
2 cups cooked peas.  
 $\frac{1}{8}$  cup cold water.  
 $\frac{1}{4}$  teaspoon salt.  
1 cup cooked minced turtle meat.  
 $\frac{1}{4}$  minced red pimento.  
1 minced medium green sweet pepper.

Soak the gelatine in  $\frac{1}{8}$  cup cold water for five minutes. Add hot broth or soup stock and stir constantly until gelatine is dissolved. Add salt and cool.

Pour a thin mixture of gelatine in a casserole dish or deep cake pan. Cover with a thin

## Rough, Tough and Hard to Bluff



Harvesting turtles serves a two-fold purpose. It not only furnishes excellent and valuable food, but also aids in the destruction of a serious predator.

layer of turtle which has been mixed with pimento and green pepper and add another layer of gelatine to the mixture. Repeat until all ingredients have been used. Place dish in ice box and chill until firm. Serve cold with mayonnaise, French dressing, or your favorite salad dressing.

### Turtle Stew

Brown  $2\frac{1}{2}$  to 3 pounds of turtle meat in hot fat. Add  $\frac{1}{2}$  cup pearl barley, two tablespoons chopped celery leaves, one tablespoon salt,  $\frac{1}{8}$  tablespoon pepper, two quarts water, and simmer slowly until tender ( $1\frac{1}{2}$  to 2 hours). When meat is tender, add eight small onions, four medium halved potatoes, and eight small carrots, and continue to simmer for 30 minutes or until vegetables are tender. Heat separately and add one No. 2 can of green beans before serving.

### Turtle Pie

Pan-fry one-third cup chopped onions and two tablespoons green pepper. Add two cups cooked turtle meat, one cup cooked diced carrots, two cups canned peas and cup canned corn. Melt six tablespoons butter in frying pan; add five tablespoons flour and blend well. Slowly add one cup milk and one and a half cups vegetable liquids (from vegetables previously used in this recipe) and stir constantly. Add  $1\frac{1}{2}$  teaspoon salt,  $\frac{1}{8}$  teaspoon pepper, turtle which has been previously browned, and vegetables. Simmer over low fire until vegetables are thoroughly heated through. Place contents in casserole or baking dish. Top with biscuit crust which can be made as follows:

$1\frac{1}{2}$  cups sifted flour.  
 $2\frac{1}{4}$  teaspoons baking powder.  
 $\frac{1}{4}$  teaspoon salt.  
3 tablespoons shortening.  
9 tablespoons milk.  
Cut shortening into sifted dry



by HAROLD B. BJORNSON  
Assistant State Forester

True conservation may be defined simply as wise use of natural resources. Trees are a product of the soil, and good forestry or woodland management requires that they be handled like a crop.

A large proportion of the Christmas trees sold on the market are the product of commercial nurseries or plantations devoted to that purpose. President Roosevelt's Christmas tree plantations on his 1,600-acre farm at Hyde Park, N. Y., is an example. The trees are planted and harvested when they have reached the popular size. After one crop is harvested, another crop is planted on the same land.

From a monetary standpoint, few crops are more profitable. Returns per acre may average as high as \$75 to \$100 annually more than a good crop of corn.

Great numbers of Christmas trees come from the tops of trees cut in lumbering operations; others are the product of thinnings which benefit natural forests.

Although this state has no Christmas tree industry worthy of the name, some red cedars and pines are cut every year from farm woodlots and serve to brighten the holiday season in

ingredients. Add milk to make soft dough. Roll lightly to  $\frac{1}{2}$  in. thick and spread over hot mixture in casserole dish and bake in oven 375 degrees for 40 minutes.

Iowa homes. The native evergreens for the most part apparently cannot compete on the commercial market with the more symmetrical and abundant spruces and firs from other states.

Many can remember when, as boys, they trudged through the snow on Christmas Eve to cut and bring home a cedar. Many boys will be doing the same thing this year. To them the pungent, friendly cedar is a definite part of Christmas and could never be replaced by an imported tree, however symmetrical and well-proportioned.

Considered strictly from an economic standpoint, cutting of occasional young evergreens in forest or woodlot might be considered poor conservation, unless they are replaced by new plantings.

In general, however, it may be said that Christmas trees serve a useful and admirable purpose in preserving the traditions and bright spirit of Yuletide. The finest values of life are not to be measured by any monetary standard. In terms of sheer human happiness, as expressed by the sparkle in a child's eye on Christmas morning, the smallest tree may be worth far more than any hoary monarch of the forest primeval.

## Winter Food Supply Spotty

By W. A. RUSH, Plantsman

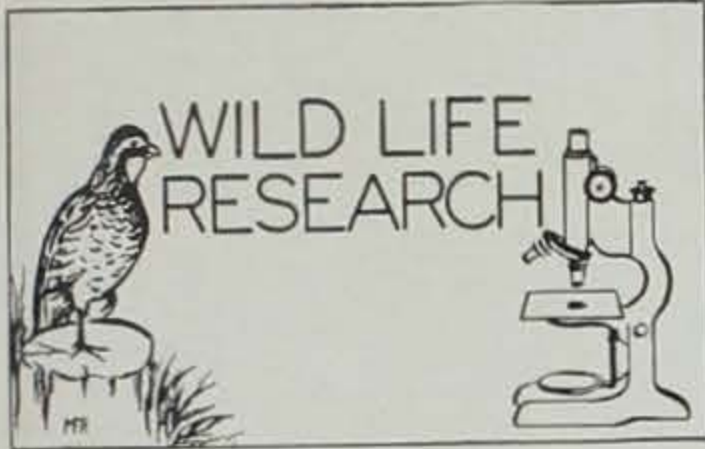
Only those birds and animals depending on waste cultivated crops will find their food supply abundant in all parts of the state this winter. Heavy local rains damaged the blossoms of many trees and shrubs during the spring, causing many nut and wild fruit crops to be entirely missing in some localities. Other parts of the state, however, have exceedingly heavy crops of wild food of all kinds.

The most notable variation and spotty crop is that of the nut trees, with all varieties coming in for their share of damage. In some sections walnut trees are devoid of fruit, and only a mile or two distant the nuts are abundant. However, the squirrels, our most important nut-eating wildlife group, will probably suffer very little because of their ability to substitute corn as their principal food.

Berry- and fruit-eating birds may find it necessary to migrate locally into areas providing more abundant food. Many of our winter birds feed entirely upon weed seeds, and these are abundant throughout the entire state.

In spite of the spotty wild food supply, the amount of emergency winter feeding that will be necessary during the winter will depend to a large extent upon the severity of the winter.





Project No. 497, Iowa Co-operative Wildlife Research Unit, Iowa State College, Ames, Iowa.

By GEORGE O. HENDRICKSON  
Project Leader

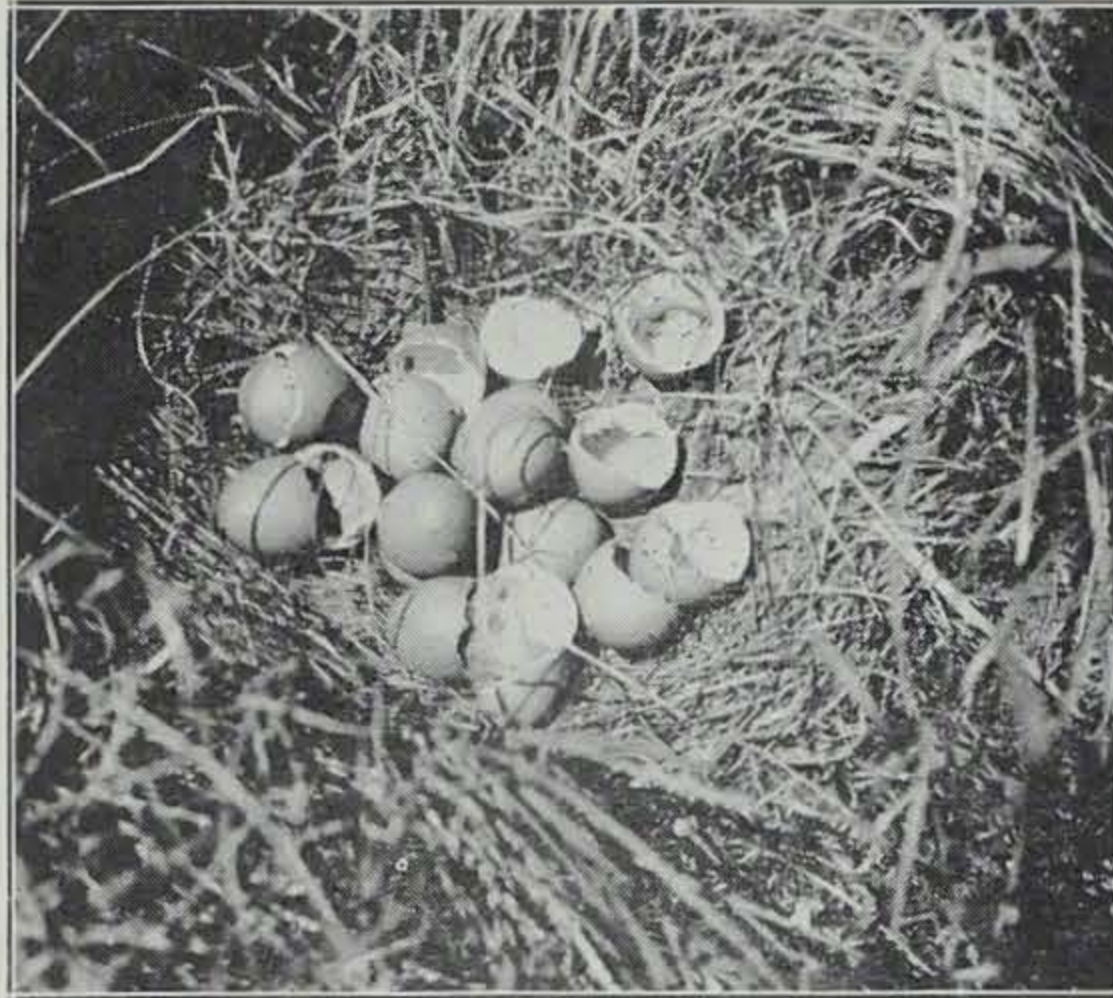
Thomas S. Baskett, Graduate Research Assistant, has completed three years of investigation into the production of the ring-necked pheasant on the Winnebago County pheasant research area of 7,200 acres.

The estimated breeding population was 50 pheasants to a square mile in 1939, 80 in 1940, and 130 in 1941. The spring cock to hen ratios were 1 to 2.4, 1 to 2.1, and 1 to 2.0 for the years 1939, 1940 and 1941, respectively.

The earliest nest found was begun during the two-week period, March 16-31, 1941, and the latest nest observed was established during the first half of August, 1940. In the three summers data were obtained on 533 nests founded by repeated systematic patrolling of fields, and by checking in all hay and small grain fields as soon as possible after harvest each summer on 1,520 acres. About 150 acres of the nesting area were untilled in farmyards and groves, lanes, roads, fence rows, sloughs, and gravel pits. Cultivated crops, almost entirely corn, were on one-third of the tilled 1,420 acres; small grains, nearly all oats, on one-third; hay crops, about one-half legumes and one-half grasses, on one-sixth; and the remaining one-sixth was pasture, chiefly bluegrass. Hayfields contained about 56 percent of the nests, of which about 22 percent were successful; small grains about 20 percent, about 46 percent successful; fence rows about 12 percent, about 13 percent successful, and pastures and miscellaneous cover about 12 percent, about 21 percent successful. Nests in types of hay mowed late, such as wild grasses, had higher percentages of success than those in types of hay mowed early, such as alfalfa. About 26 percent of the nests hatched successfully, with the average of about nine chicks to a nest.

As the breeding population increased each year, the nesting success percentages decreased. Man's agricultural activities were responsible for loss by desertion of one-third of all the nests not hatching. For every 100 nests found in hayfields, 11 hens were crippled or killed. Crows were the most destructive predators, probably having caused losses of 19 percent of all destroyed nests. It was concluded that failure of

## Empty Nests May Mean Good Hunting



A successful pheasant nest, the young hatched and gone, the empty shells lying closely packed in the nest in much the same position they occupied prior to incubation.

(State College Photo)

individual nests did not necessarily signify absolute reproductive loss, for, as pointed out by some other research workers, many hens re-nested until they brought off broods.

The estimated fall numbers of pheasants were 150 to a square mile in 1939, 220 in 1940 and 280 in 1941. Hunters took about 20, 15 and 50 cocks to a section in the legal shooting seasons of 1939, 1940 and 1941, respectively. In normal years, with present land use arrangements continuing, a seedstock of 75 to 125 pheasants to a section may be expected to yield a shootable surplus of 50 to 100 cocks to a section.

### CORRECTION

In the October "Wildlife Research" column, Ecology and Management of the Bob-white, by George O. Hendrickson, there was an error in the bob-white population estimates. The number for the year 1938 for spring was given as 471, and the autumn number was given as 1,234. They should be corrected to read: Spring, 471, and autumn, 1,334.

## Killing of Deer

(Continued from Page Five)

game laws can be disregarded. While the Fish and Game Commission has gone "all out" in the matter of national defense, it believes that the decimation of deer can not in any way be indicated as a contribution along these lines.

Army authorities were quick to assure the Division of Fish and Game of their full co-operation, and Lieutenant General DeWitt has issued instructions to all sectors, Fourth Air Force, Communications Zone and all separate units to take immediate action to prevent any infraction of the fish and game laws on areas lying within the boundaries of the Western Defense Command—"Outdoor California," California Division of Fish and Game.

## WARDENS' TALES

### SHOP TALK FROM THE FIELD

While on fishing patrol on Clear Lake, Verne Petersen saw a boat in which the single passenger was sound asleep. Approaching more closely, he noticed four short fish poles with lines attached, and fastened to each was a small jingle-bell. Even as he watched, a fish bit, a bell jingled, and the fisherman awakened. The officer notified the violator that he was arrested for using too many lines. The fisherman, in broken English, replied, "That is too bad for you. I had you in my will—but now I take you out."

—WT—

A commercial fisherman who was a notorious violator of the fishing laws had evaded arrest almost all season. Whenever officers checked his catch, everything appeared to be strictly on the up-and-up. One night, while visiting a bar, the commercial fisherman stated noisily, "They'll never catch me. Their boat throws a white spray—different from any other boat on the river. The spray looks just like a double eagle and says 'Jiggers!' a mile away."

The next day two small cleats fastened to the prow of the patrol boat changed the shape of the spray, and the fisherman was caught "cold turkey" with 65 pounds of illegal fish.

—WT—

After a long, hard day on river patrol, two wardens loaded their boat on the trailer and headed for a small-town hotel and some much needed rest. The trailer was parked behind the hotel and the contraband, nets and trot lines, left in the boat. During the night the slumbers of patrons in the ho-

tel were disturbed by numerous cat fights.

Bright and early the two wardens went out to continue their trip, and to their dismay they found that a squadron of local alley cats had come to feed on the minnows that had been left on the trot lines. Many different cats of many different colors were securely hooked. With the help of the local veterinarian the cats were released, little worse for wear—but the scratch-covered officers learned a valuable lesson. A baited hook or loaded gun can both cause unpleasant surprises.

## Sportsmen Will Be Backbone of Guerrilla Bands

The 7,000,000 hunters and woodsmen in the country will be the backbone of the nation-wide guerrilla movement which is gaining momentum daily, says Paul W. Kearney in his article, "The Return of the Minute Man," in the October issue of Esquire. Experience in handling guns and a knowledge of wood lore are the two most important qualities in a good guerrilla fighter.

One of the most effective weapons in total war is guerrilla force. One of total war's most difficult problems is how to organize and control these civilian vigilantes. Recognizing the need to make every home a battle camp and every citizen a soldier, Americans now recreate the days of the Minute Man and arm themselves for combat.

There are already approximately 20,000,000 firearms in the private homes of hunters, skeet, trap, and target shooters, all of whom have more or less ammunition left over from last season. No country on earth is as well armed for guerrilla warfare as we are. Most civil populations have been disarmed for years.

Though woodcraft and marksmanship are of prime importance, without proper training and organization, groups of guerrillas can be of more help to the enemy than to their countrymen.

Americans are being more convinced of the value of guerrilla warfare daily, as they see the repeated successes of guerrilla bands in China and Russia. The guerrilla's job is not to meet and to defeat the enemy in battle, but to torment, nag and obstruct, to hit and run, and to smash nerves and morale as well as communications and supplies.

Crows can sometimes be taught to talk. Contrary to a savage popular belief, the tongue need not be split. Slitting the tongue is an unnecessary cruelty. Birds produce vocal sounds from within the body from the syrinx.



## Feeding Stations Provide Fun and Profit In Birdlife

By PAUL LEAVERTON  
Acting Superintendent of Game

When the first snow fell in September, old Zeke came scolding around our feeding stations. Not that he was hungry—but he was telling us that winter would soon be here, and that we had better be reminded that the feeding trays were empty.

Zeke is our nickname for a red-bellied woodpecker who has made our feeding trays his winter cafeteria. Some people call him the "zebra woodpecker" because of his black and white stripes, but we call him Zeke for short. He always scolds when the feeders are empty, or nearly so, until they are filled with food.

There are fourteen or fifteen kinds of birds that are our regular customers throughout each winter, and some that are not so regular, but drop in occasionally. We have had a lot of fun observing the antics of these feeding birds. Our feeders are placed so we can see them through the windows. When some rare new bird visitor comes to feed, the whole family gets excited. Work and play are forgotten while we crowd around the window to watch. Although we live in the edge of a small town with some three thousand other people, occasionally a quail or pheasant visits the city and has lunch at one of our feeders.

There are several species of birds in Iowa that do not migrate to a warmer climate during the winter months, but stay and help liven the landscape during the cold, snowy days. These birds rely on weed seeds, nuts, grain, and scraps that they can pick up for their existence. It is surprising how much feed is required for a small bird each day. However, by working hard and searching closely with sharp eyes, they are for the most part able to survive our coldest winters. Of course, when the snow is heavy, natural food is hard to find, and some die of starvation or become weak and are pounced upon by some predatory bird or animal who depends upon other animal food in order to survive.

From a food standpoint, ice and heavy snow that covers everything and stays on for long periods is the worst condition of all in wintertime. Well-fed birds do not die because of cold, but bitter winter weather does destroy large numbers when lack of food has weakened them. We can help our feathered friends by placing food, such as seeds, grain, bread crumbs, suet, and cracked nuts in protected places in reach of the birds, also by building shelters where



Feeding stations for quail and pheasants should be placed near some protecting cover such as a plum thicket, a thick growth of shrubs, or tall weeds.

the birds can dodge in and out when an enemy is near or when a winter storm is raging.

One very important thing to remember in feeding birds is that once you start, be sure you continue throughout the winter. The birds depend on your food and will come back each day for it. Some day, if feed is not there, they will wait around too long. Possibly a storm will come, and weakened due to lack of food, they will die or fall prey to some predator. So, once you start, don't fail to continue throughout the winter.

Feeding stations for quail and pheasants should be placed near some protecting cover, such as a plum thicket or a thick growth of shrubs or tall weeds. This cover serves as a place for the birds to run to for protection should an enemy come along; it also serves to break the strong winter winds.

The food, whether in feeders or not, should be placed high enough that it ordinarily will not be covered with snow, yet within reach of the birds. A light snow won't hurt, as the game birds are good scratchers, but ice is bad. Food for smaller birds is usually placed higher, either on a protected platform or in wire cages on a tree, always near some protecting tree or shrub.

Much has been written on bird feeding in the winter, on kind of feed, feeders and shelters. There are several books and bulletins that are available on the subject. Inquire at your public library, school library and Farm Bureau office. There are two that I will mention: "Winter Birds Around My Home," published by Iowa State College, Ames, Ia., with a charge of five cents, and "Feeding Wildlife in Winter," Farmers' Bulletin No. 1783, U. S. Department of Agriculture, Washington, D. C., with a charge of five cents.

Anyone can enjoy the winter birds. "Shut-ins" can have a feeding station placed near a window and enjoy the company of birds all winter. The individual who needs some outdoor exercise rather than just a walk can build a shelter, maintain a feeding sta-

## Booklets Available For Training Home Guard Units

The National Rifle Association has prepared a series of excellent new instructional booklets covering the forming and training of auxiliary defense organizations. Available at cost to all interested parties regardless of N. R. A. affiliation, they offer a practical and definite plan of action, especially valuable for the Minute Men groups that have been springing up among sportsmen all over the country.

The mission for such groups is clearly defined along lines of guerrilla warfare, with means of carrying out this mission suggested. Organization is in no way controlled by the N. R. A. On the contrary, emphasis is placed upon close tie-in with duly constituted authorities of the state, county or local governments. To quote an N. R. A. official, "We feel that this is merely a service to the country in these times and is in a sense our responsibility in the effort to make use of the many gun owners, particularly hunters, who haven't previously thought of military marksmanship or the details of training."

One booklet, "Practical Home Guard Organization," is concerned chiefly with basic organizational principles and problems. A com-

panion booklet, "Practical Organization of Industrial Plant Protection," is for the guidance of defense plant officials. Instructional booklets covering use of defense firearms by home guards, industrial guards, and auxiliary police include: "The A B C of Practical Pistol Instruction," "The A B C of Practical Rifle Instruction," and "The A B C of .22 Calibre Rifle Instruction for Civilian Small Arms Firing Schools." Another soon to leave the press is "The A B C of Practical Riot Gun Instruction."



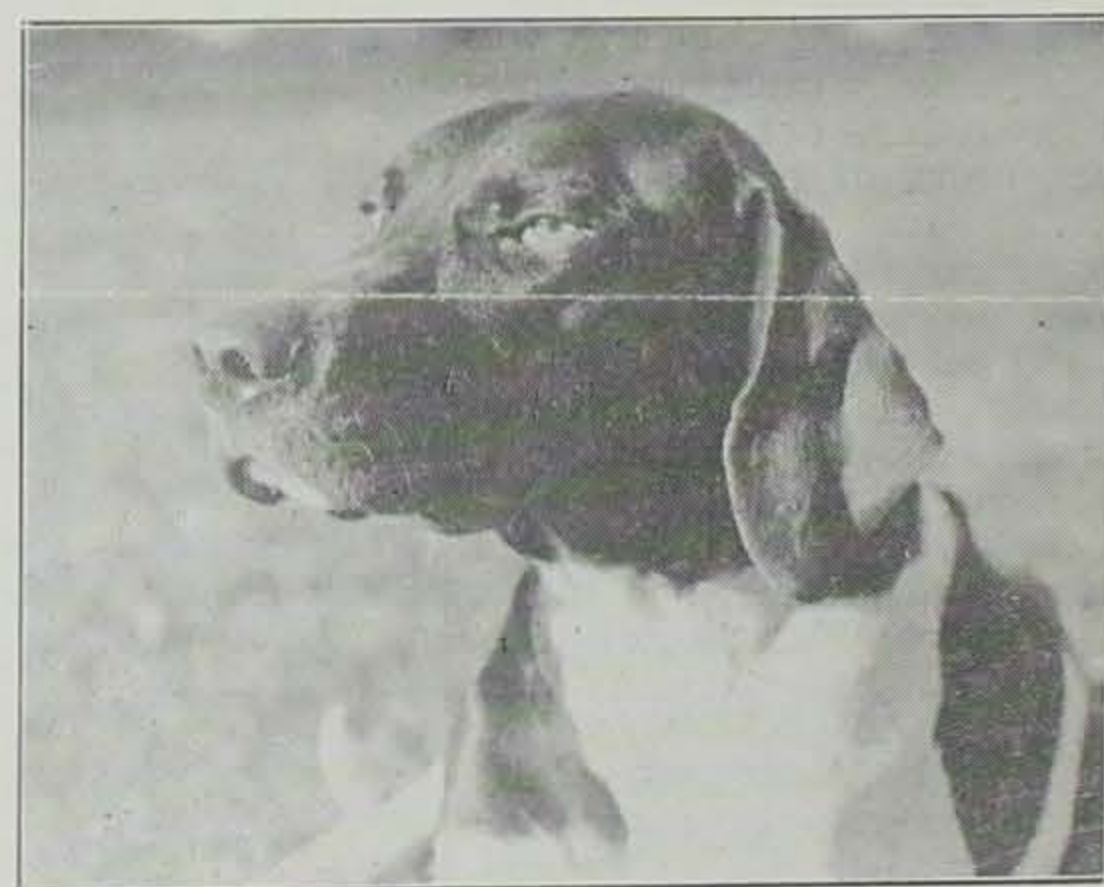
—Photo by M. L. Jones

The nuthatch is one of several species of birds that do not migrate to a warmer climate during the winter months, but stay and help liven the landscape during the snowy days.

Any of these booklets may be secured at 25 cents a copy from the National Rifle Association, 1600 Rhode Island Ave., Washington, D. C.—Audubon Advertiser.

Some 100,000 tons of nuts are supplied by American nut trees annually.

## A Dog's Prayer



"O Lord of humans, make my master faithful to his fellow men as I am to him. May he be open-faced and undeceptive as I am; may he be true to the trust reposed in him as I am to his; give him a face cheerful like unto my wagging tail; give him a spirit of gratitude like unto my licking tongue. Fill him with patience like unto mine that awaits his footsteps uncomplainingly for hours; fill him with my watchfulness, my courage, and my readiness to sacrifice comfort or life. Keep him always young in heart and crowned with the spirit of play, even as I—make him as good a man as I am a dog—make him worthy of me—his dog."—Fayette Leader.