

IOWA CONSERVATIONIST

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Number 11

THIS MATTER OF WINTER FEEDING

NOWADAZE

or

A BULL IN THE HARP AND WING MARKET

By Charlie Gebhard

Hunting, so they say, is the sport of kings. Hunting is also the sport of a lot of darn fools! We're going to try to describe how the darn fool kind of hunter goes about enjoying what he calls "sport."

First of all it's always a good idea to mix a generous amount of alcohol with your gunpowder and shake well before using. Before the start of a hunting trip, be sure your journey will carry you past at least three taverns so that you will be properly inspired for the afternoon's sport. Game nowadays is getting scarcer, and it's a lot more fun to see two or three rabbits or pheasants when there's only one.

Before you and your friends climb into the car to go to the scene of the hunt, load up all the weapons and put them in a pile on the back seat. Of course it's against the state law but think of the laugh you'll have when somebody picks up one of the guns and pulls the trigger out of force of habit. What a surprise he'll get when the thing goes off! You can't beat it for fun!

Three hours and three taverns later you pull up in front of a corn field along a country road and decide that here's where you ought to find some pheasants. So everybody piles out of the car and look how much time you save, just because the guns are already loaded! You scramble for the barbed wire fence, crawling between the wires and dragging the loaded gun after you. You know darned well your insurance policy is paid up so what have you got to worry about! Then

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Can the American farmer fulfill the hope of hungry millions overseas and still maintain in America soil that guarantees a long-time abundant production?

A CONSERVATION CURRICULUM FOR AGRICULTURAL COLLEGES AND UNIVERSITIES

By Wilson Compton, President
State College of Washington,
Pullman

Today, as impoverished peoples of the Western World put their faith in American abundance, and, more specifically, in the "Marshall Plan," American agriculture faces the greatest single challenge in its history. The challenge is this: Can the American farmer fulfill the hope of hungry millions over-

seas? Can he at the same time produce the food and fiber needed at home? Can he do this and still maintain in America a potential long-time, abundant production?

This challenge cannot be met easily, but I believe it can be met successfully. It may be met successfully only if farmers individually and agriculture as a whole re-examine present farming prac-

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By W. O. Nagel

Reprinted from
"Missouri Conservationist"

Winter feeding is something that can either help wildlife or do it harm, depending on how and under what conditions the feeding is done. For this reason a winter feeding project should be handled with a good deal of care and thought. Before it is decided to put out food to help wildlife get through the winter, there are two things of which to make sure: First, that the birds really need help, and second, that we know how this help should be given.

The first thing to remember is that normal winter weather is not naturally a serious handicap to our native wildlife species. The wild creatures we find in winter are here because they have found living conditions, including weather, generally suitable. When natural food and cover are abundant and good, quail and rabbits, furbearers and songbirds, squirrels and others take average winter snow and cold in their stride. Nature has fitted them to do this without undue harm.

Wildlife is not like tame or domesticated poultry and livestock. It is used to getting its own food and finding or making its own shelter in the forests and fields and dense undergrowth. This is part of its way of living and has much to do with the fact that wild creatures stay wild. Feeding too much or when extra food is not needed is not helping wildlife—game species especially; sometimes when game learns to depend on man, it forgets how to care for itself. Another thing to remember is that feeding the wrong food or in the wrong way even when extra food is needed may expose wildlife to dangers greater than half-starvation.

Knowing these things about wildlife, it is easy to see that the best and most helpful thing that can be done to help it through

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OCTOBER COMMISSION ACTION

A meeting of the State Conservation Commission was held in the Des Moines offices of the Commission on October 4 and 5, 1948.

Members present were E. G. Trost, E. B. Gaunitz, F. W. Mattes, Mrs. Addison Parker, F. J. Poyneer, and J. D. Reynolds.

The Commission:

Authorized investigation of effect proposed Saylorville Dam Project will have on Ledges Park Area.

Approved proposed plan of group in Lake Manawa vicinity for development of Lake Manawa Area in cooperation with the National Park Service.

Authorized cooperation, where possible, in the Little Sioux Flood Control Project.

Authorized addition of \$25,000 to the Forestry Maintenance Budget for cooperation with farmers in a reforestation program in Iowa.

Granted J. D. Lowe and Edward Burchett each a non-commercial permit for power lines across Lake Wapello State Park in Davis County.

Adopted Administrative Order No. 118 establishing the 1948 trapping seasons.

Adopted Administrative Order No. 119 establishing the 1948 quail hunting season.

Authorized repairs to dam in Pioneer Recreational Reserve at Brownsville in Mitchell County.

Authorized inclusion in extension budget for next biennium of funds for repair of entrance to Pammel State Park in Madison County.

Authorized change in location of proposed dam in Washington County, as recommended by Green Engineering Company and Dr.

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Floods may not occur at all if the farms in each valley are managed so as to capture the water and hold it on the land instead of letting it rush into the stream, carrying with it the vital elements of the soil as well as the soil itself. State Soil Conservation Committee Photo.

PREVENTION COMES FIRST

From the looks of things—both from the point of view of soil conservation and flood control—we have the right idea here in Wayne County with our conservation field days.

Outdoor News Bulletin, which is published by the Wildlife Management Institute, recently had this to say on the subject of floods: "If floods are to be stopped, they must be stopped at their source. Floods usually occur when spring cloudbursts strike snow-covered hillsides denuded by overgrazing, fire, unwise timber operations, or agricultural activities on steep slopes. They still may be stopped if the valley farms are managed so as to capture the water and hold it on the land instead of letting it rush across fields and into the streams, carrying with it the vital elements of the soil and the soil itself. . . . Small dams below the watershed farms may check some of the volume of water, but the silt carried from the land soon will fill the artificial lakes behind them. The same thing occurs, multiplied many fold, as silt and debris-filled waters pile up behind big mainstream dams. . . ."

"Flood control has been used too often as an excuse for spending billions of the taxpayers' dollars for power projects. . . . America has only a small need for more flood control; it has a crying need for flood prevention."

Official government surveys show that by far the greatest amount of flood damage is done to farm land on the headwaters of streams—and that only a small part is done along the main streams. The big mainstream

dams, which have been sold to the taxpayers on the theory that they would prevent floods and conserve the land as well as produce power, are thus largely useless. In many cases the enormous lakes built up behind them have permanently flooded far more good land than they can possibly protect.

The prevention of floods is necessary to this continent's future. And the largest part of the job can be achieved by proved farming practices which will keep the water on the land.—Seymour Herald.

HERE'S THAT CROW AGAIN

The crow is a wily bird. However much you may abhor his raucous noises and depredations you must admire his shrewdness in evading the efforts of his many enemies to exterminate him and his tenacity in holding the population of his species to a high figure in the face of such terrific odds.

Neither farmers, sportsmen nor wildlife experts so far have been equal to the task of controlling the crow, although they have tried practically every possible method—bombing, trapping, poisoning, and shooting.

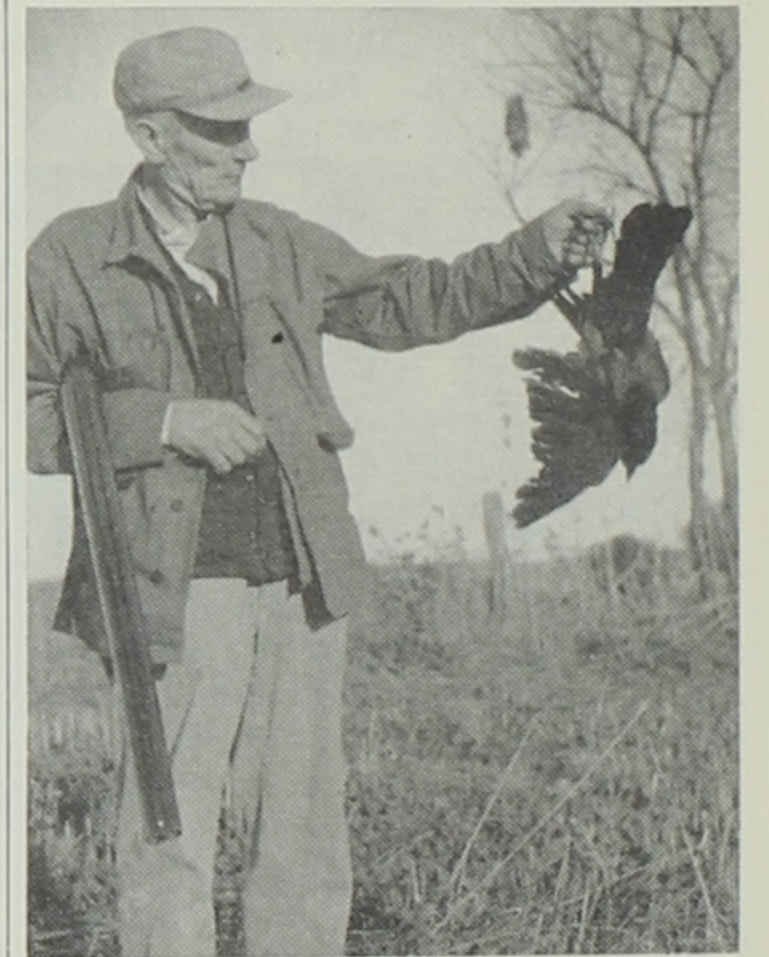
A widely advertised method of crow control has been by means of dynamite, or crow bombs. This method has been successful only in a few instances, technicians of the Missouri Conservation Commission say. The failure of dynamite bombs in so many instances where they have been used shows that the crow has lost none of the wariness properly accredited to him. Crows quickly detect any changes that are made in the vicinity of any roost they are using.

If the trees are disturbed by placing dynamite or crow bombs, the crows simply shift to another group of trees.

And generally speaking, poison is not effective. The U. S. Fish and Wildlife Service conducted experiments on poisoning crows, using strychnine under carefully supervised conditions. Only a small number of crows could be killed in this way because the birds quickly learned to stay away from the poisoned food. Other attempts have shown that the birds would either regurgitate the poisoned food or recover from its effect before they could be picked up and destroyed.

Trapping, too, will take only a small part of birds in any given concentration. Some few instances are known where a considerable number of birds have been induced to enter the traps, but in many other instances these efforts have met with failure and were not reported.

The Conservation Commission encourages the elimination of crows which are causing damage in any way. Frequently a harassed farmer can get temporary relief



Crow shooting is excellent sport. It helps the hunter keep in shooting form during a period when the season on most species of game is closed. Jim Sherman Photo.

by inviting a sportsmen's group to come in and shoot the birds. Many sportsmen welcome the opportunity to shoot crows, particularly when they can do a good turn to the farmer at the same time. Shooting crows is excellent sport for the rifle enthusiast and it helps keep the shooting eye and form in trim during the closed season on most game species.

Some snakes have been known to live from one to two years without food by absorbing the fat of their own bodies.

The bee is compelled to travel approximately 550 miles to make a teaspoonful of honey.

Ten tons of soil pass through the body of an earthworm each year. This is a lot of dirt in any man's back yard!



Iowa's first snowfall brings the rabbit hunters out in droves. The cottontail is the principal game for a majority of our hunters.

A RABBIT OR A HARE

The first snowfall in Iowa brings out the rabbit hunters with their small-caliber rifles and shotguns in search of cottontails. In many parts of this state, rabbits are the only game for the majority of the hunters.

While some people are prejudiced against rabbits on account of an occasional bunny being affected with tularemia, it should be remembered that the animals and fowls of our barnyards are not immune to this disease if the blood of the circulating system comes in contact with a carrier of tularemia. It is likely that rabbits get this disease from the bite of wood ticks.

Whether it's rabbits, pheasants, or wild ducks, the hunter should use some precaution in bagging game. A hunter should never keep any game he has shot, which shows an emaciated condition as this is an indication of disease or other disrupting influence on the general health of an animal or bird.

There has always been much confusion in this country over the names "hares" and "rabbits." Most people seem to think that the two names are interchangeable, but they are not. There are much greater differences between the hares and rabbits than there are between rats and mice. Hares are much larger, undergo two annual molts, have longer legs and ears, greater speed and endurance, and do not make use of burrows as do the rabbits. However, the greatest difference between hares and rabbits is in their young. Hares are born with a well-developed coat of hair and with their eyes open, while rabbits are born without hair

on their bodies and with their eyes closed.

Jackrabbits are hares and not rabbits, and swamp or marsh hares are rabbits and not hares. Hares and rabbits do not hibernate during cold weather, and they do not store up food for the winter. They are strictly vegetarians and in localities where they become numerous they may do considerable harm to young trees, crops, and gardens.

The "jackrabbits" constitute a well-defined species on our continent, and they are conspicuous not only by their larger size, but also by their two annual molts—white in winter in northern regions and darker-colored in summer.

White-tailed jackrabbit is the full name for the common jackrabbit of the prairie regions of our north central states. Weighing from eight to ten pounds, these hares are gray-colored in summer and pure white in winter, except for the black ear tips. The jackrabbit is a hare and should be called prairie hare or plains hare.

The Arctic hare is the largest member of the jackrabbit family. These hares will weigh 10 to 12 pounds, and they live on the frozen wastes of the far north. Most of their range is north of the tree limit, and they feed on lichens, stoneworts, and other vegetation of the Arctic regions. In their extreme northern range they remain white throughout the year.

The varying hare, which is usually called the "snowshoe rabbit" on account of its large hind feet, is an inhabitant of the northern woods. The "snowshoe" rabbit has a summer pelage of reddish or cinnamon brown, and when cold weather comes, this hare changes its coat to one of pure white, with the exception of the tips of its ears

which remain black. This color change takes place in spring and autumn without any apparent connection with the presence or the absence of snow on the ground at either season. These hares will weigh around six pounds.

The black-tailed jackrabbit, also a hare, is the jackrabbit of our west coast states. These hares are gregarious and when they congregate by thousands in a locality, they can cause considerable damage to crops. Their color is a mixture of yellowish-brown, black and gray, but the seasonal changes of their coats are not as noticeable as with other hares.

The white-sided jackrabbit lives in the desert regions of Arizona and New Mexico, and is the most striking and handsome of all the North American hares. They have short hair, white mottled sides, black tails, fulvous necks, yellowish-gray heads, and enormous ears. They exist on desert vegetation.

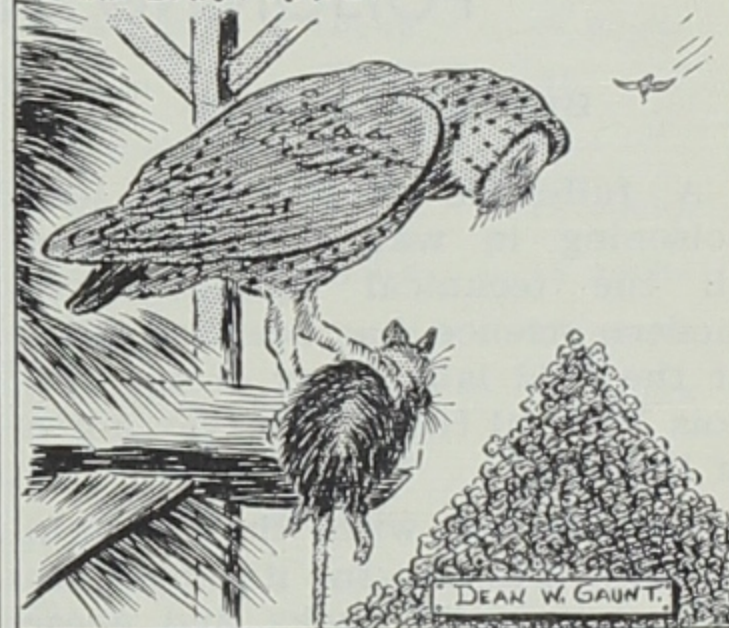
Cottontail rabbits are correctly named, and there are more than 25 subspecies on our continent. The subspecies found in Minnesota, Iowa, Wisconsin and Michigan are known as the Mearns cottontail and is a large pale-colored gray rabbit. The Oregon cottontail is the darkest and richest colored of the cottontails. The favorite food of the cottontails is tender green leaves in summer and the inner bark of trees and shrubs in winter. Cottontails are very destructive to young fruit trees, walnut trees, mulberries, evergreens and locust trees. They will girdle the trunks of these young trees during the winter season and kill them, but when trees get several years growth and the bark gets hard and rough, they do not molest them.

The swamp or marsh rabbits, often incorrectly called swamp or marsh hares, dwell in swamps,

"To the end that America shall hold tomorrow all that she grants today, we are resolved to hand down to future generations a land no longer ravished; a land holding within herself all the strength that springs from being whole, unspoiled and unafraid." — Excerpt from Charter of Outdoor Writers Association of America.

OUTDOOR ODDITIES BY WALT HARVEY

IN THE RETREAT OF A PAIR OF BARN OWLS, MORE THAN 3000 SKULLS WERE FOUND, 97% OF WHICH WERE FIELD MICE, HOUSE MICE, AND BARN RATS.



bogs and bottom lands, and they might be classed as water-loving rabbits. They do not hesitate to swim across ponds and rivers, and usually take to the water to throw dogs off their trails. The range of the swamp rabbit is the low lands from Florida west to central Texas. They differ from cottontail rabbits by their short and coarse hair and smaller ears.—Ruthven Free Press.



Hares are born with well developed fur and eyes open. Rabbits are born without fur and their eyes are closed at birth. These cottontail rabbits, still in the nest, are four weeks old. Tom Scott Photo.



Lead poisoned ducks left on the ice at Forney's Lake in 1947 after a flock of several hundred took wing.

BEGIN COOPERATIVE STUDY OF LEAD POISONING IN WATERFOWL

By Harlow B. Mills

A full-scale attack upon lead poisoning in waterfowl, utilizing all the technical equipment of modern science, has been launched at the field laboratory of the Illinois Natural History Survey north of Havana.

Cooperating with the Natural History Survey in its research project on wild ducks and geese are the University of Illinois and Olin Industries, Inc., a major manufacturer of sporting arms and ammunition, with headquarters at East Alton, Illinois.

Lead poisoning in wild waterfowl, which results when the birds swallow lead pellets picked up in their feeding in heavily shot areas, has been recognized by biologists for more than half a century, but it remained for greatly diminished habitat and increased numbers of hunters in recent years to place this disease in the category of a real menace to the nation's wildfowl population.

Decision to undertake one of the largest biological investigations

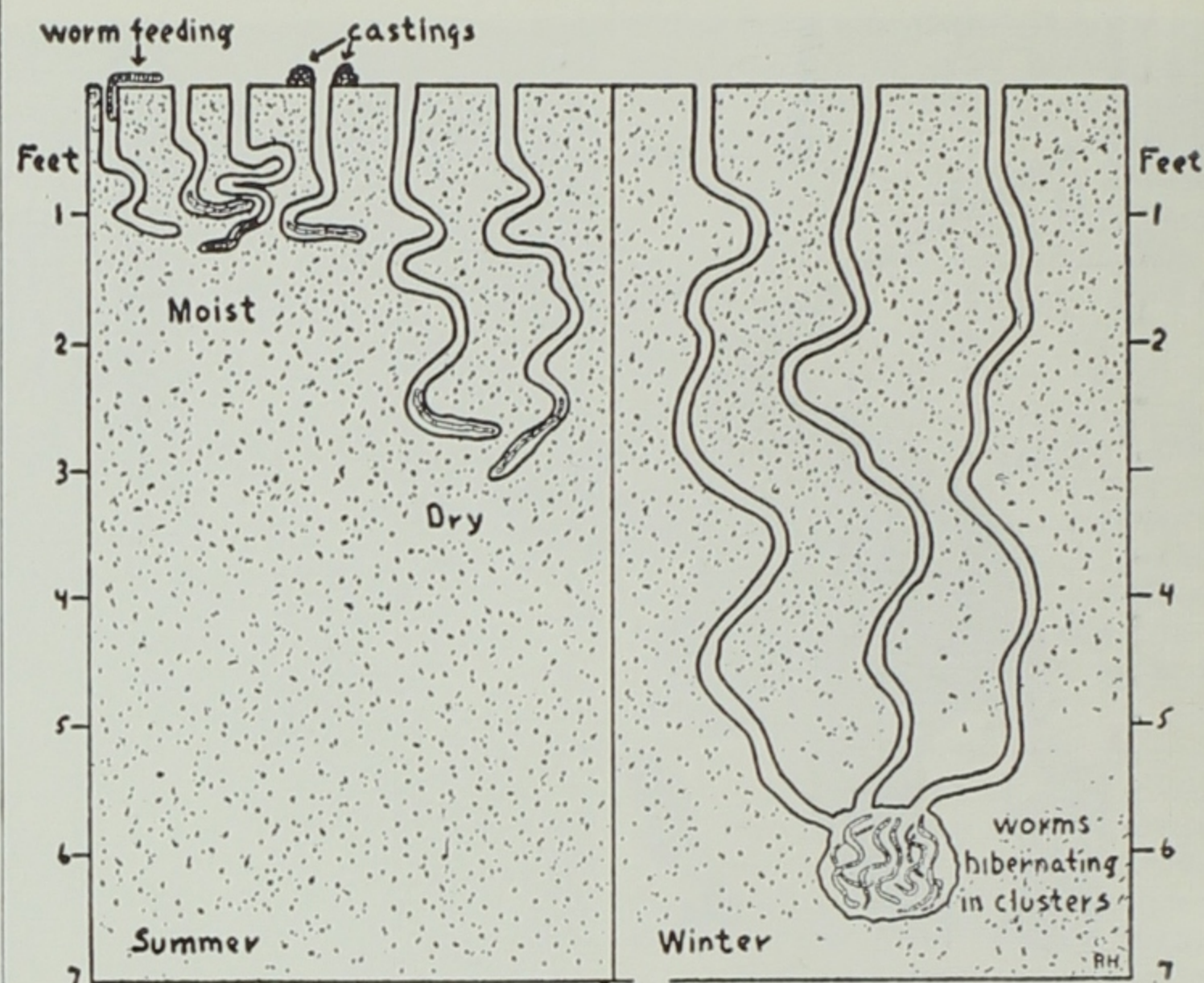
ever conducted in this field of game conservation was reached by the two Illinois agencies and the cooperating industry following a severe outbreak of the disease last winter at the Pere Marquette Wildlife Refuge near Grafton, Illinois and at Forney's Lake in western Iowa.

Already set up at the Havana laboratory are pens of domestic Pekin ducks being used in a preliminary test of the effect of ingested lead shot upon waterfowl. In later phases of the experiment wild ducks will be used.

Biological aspects of the investigation are in charge of the Natural History Survey, with assistance in pathological research from University of Illinois personnel. Metallurgical, chemical, and production problems are the responsibility of Olin Industries and will be carried on in laboratories of two of its divisions, the Western Cartridge Company at East Alton and the Winchester Repeating Arms Company at New Haven, Connecticut.



Lead poisoned mallards, too weak to fly and with only a few hours to live.



EARTHWORMS IN WINTER QUARTERS

A Keen Observer Reports on the Habits of Creatures Which Are Useful to Sportsmen as Well as Gardeners

The lowly earthworm is one of the gardener's best friends. Unseen, it works day and night, ploughing, harrowing and fertilizing the soil.

It digs into the earth from 12 to 18 inches, although at times it may go as deep as seven or eight feet, and brings the subsoil to the surface, which is just what we do when we plow. It also grinds this soil in its gizzard, thus breaking it up as we do with our harrow. Its glands secrete lime that neutralizes the acid in the soil. The earthworm is truly an agriculturist, for it plants seeds by covering them with soil which it brings up from below the surface, and it cares for the growing plants by cultivating the soil around the roots. It provides enrichment by burying the bones of dead animals,

along with shells, leaves, twigs and other organic matter which, upon decaying, furnish the necessary minerals to the plants. It even provides for drainage by boring holes which carry off surplus water.

The earthworm spends most of its time in the ground, where it lives in a burrow. The burrow, as a rule, extends straight down at first, and then winds about irregularly. Towards the surface the burrow is lined with a thin layer of fine, dark-colored earth voided by the worm. The familiar "castings" are formed with excreted earth and are made by the tail, which the animal uses as a trowel.

The earthworm cannot live in dry ground; it must have moisture. It does not like loose sand either, for it cannot build its burrow with

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The earthworm is strictly nocturnal in habit and is not found outside of its burrow during the day unless drowned out by a heavy rain. In wet weather, with the aid of a lantern night crawlers may be picked up from the surface of the ground after dark.



The almost extinct whooping crane, photographed with a company of wild geese. Jack Musgrove Photo.

WHOOPING CRANE NESTING GROUNDS STILL MYSTERY AFTER 16,000-MILE SEARCH

Worms . . .

(Continued from page 84)

sand grains, but must have materials with more plasticity. It thrives best in moist, well-aired soil that is rich in organic matter and that is neither acid nor alkaline. The most favorable times of year from the viewpoint of moisture and temperature are spring and fall.

On warm, moist nights of the early fall, we can find earthworms in large numbers on the surface of the ground, but with the first hint of freezing they disappear. At this time they do not go deep into the ground, but remain near the surface and reappear on warm nights. As the cold weather gradually sets in, they go into the ground from three to six feet below the frost line, and gather by the dozens or hundreds in rounded chambers, huddling together in close-packed balls to conserve their moisture.

Here they remain until the spring sun has completely thawed the ground, when they begin to reappear on the surface. Spring is the main breeding season, and on moist nights in May and June we may find hundreds of mating pairs within a few square feet of lawn or garden soil. The eggs are laid in yellowish-brown capsules, which are shaped like a football and are about the size of an apple seed.

The earthworm is strictly nocturnal in habits, and is not found outside of its burrow during the day unless "drowned out" by a heavy rain. During the day, when the ground is moist and warm, it lies in its burrow, extended full length, with its head uppermost and near the surface. It is in such a position that it is detected by

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The location of the nesting grounds of North America's rarest and tallest birds is still a mystery.

Flying 16,000 miles over vast territories in northwestern Canada and eastern Alaska during the past summer, on a general waterfowl population survey used as a basis for this year's Federal hunting regulations, biologists Robert P. Allen of the National Audubon Society and Robert H. Smith of the Fish and Wildlife Service were unable to find the exact nesting grounds of the whooping crane.

The last authentic whooping crane nesting was reported by Professor William Rowan of the University of Alberta's Department of Zoology in 1922, near Edmonton, Alberta.

Once an abundant species which nested in Canada's Prairie Provinces in the north-central states, the whooping crane was unable to adapt itself to the conditions of agricultural and community development and is now almost extinct. Thirty-three of the white-plumaged, red-crowned birds were counted early this year on the Aransas National Wildlife Refuge, north of Corpus Christi, Texas. The few thousand acres of coastal salt flats of the Aransas Refuge are the only known regular whooping crane wintering grounds.

Biologists on the Refuge estimated that no more than 16 of the 33 whooping cranes were breeding adults; the rest—unpaired, immature young, hatched during the last three summers.

The whooping cranes arrive regularly each year on the 47,000 acre Aransas Refuge in late October. Peak numbers are reached in November and December. The majority of them leave in late March and early April for their mysterious nesting grounds, believed to be near the Arctic Circle.

HISTORY OF IOWA'S PHEASANT SEASONS

By L. F. Faber

In the October "Conservationist" a table showing the history of quail seasons in Iowa was published. The following table shows the history of pheasant seasons from 1925 up to the present time:

Year	Number of Counties Open	Period	Bag Limit	Possession Limit
1925	13	3 half days in October	3cocks	
1926	18	3 half days	3cocks	
1927	17	5 half days	3cocks	
1928	Closed			
1929	24	3 half days (October 30, November 1 and 2)	3cocks	
1930	33	5 half days	3 any sex	
1931	24	2 half days	3 any sex	
1932	20	3 half days	2 cocks, 1 hen	
1933	25	6 days some counties 4 days some counties	3 cocks	
1934	27	3 days—12 noon to 5 p.m. (November 24, 27, 28)	3 cocks	
1935	33	7 days—12 noon to 5 p.m. (November 20-26)	2 cocks, 1 hen	
1936	Closed			
1937	Closed			
1938	42	3 half days	3 cocks	6 cocks
1939	40	3 half days	3 cocks	6 cocks
1940	46	7 days (November 12-18)	3 cocks	6 cocks
1941	53	7 half days—12 noon to 5 p.m. ((November 12-18)	3 cocks	6 cocks
1942	20	7 days—12 noon to 5 p.m. (November 12-18)	3 cocks	6 cocks
	39	21 days—12 noon to 5 p.m. (Nov. 12-Dec. 2)	3 cocks	6 cocks
1943	11	8 days—9 a.m. to 5 p.m. (March 12-22)	5 birds	10
(Spring)			(2 hens allowed)	
1943	38	37 days—9 a.m. to 5 p.m. (Oct. 28-Dec. 3)	6 birds	18
(Fall)			(1 hen allowed)	
	27	11 days—9 a.m. to 5 p.m. (Oct. 28-Nov. 7)	3 cocks	18 cocks
1944	37	42 days—9 a.m. to 5 p.m. (Oct. 28-Dec. 8)	6 cocks	18 cocks
	27	10 days—9 a.m. to 5 p.m. (Oct. 28-Nov. 6)	3 cocks	18 cocks
1945	36	34 days—9 a.m. to 5 p.m. (Oct. 28-Nov. 30)	4 cocks	8 cocks
	30	10 days—9 a.m. to 5 p.m. (Oct. 28-Nov. 6)	4 cocks	
1946	59	21 days—10 a.m. to 4 p.m. (Oct. 28-Nov. 17)	3 cocks	6 cocks
1947	63	10 days—12 noon to 4 p.m. (Nov. 11-Nov. 20)	2 cocks	2 cocks
1948	67	20 days—12 noon to 4 p.m. (Nov. 11-Nov. 30)	2 cocks	4 cocks



The winter of 1935 almost exterminated pheasants in a large part of northern Iowa and necessitated closing the season during 1936 and 1937. Kenard Baer Photo.

Central Nebraska is known to be a regular stopping-point in the birds' spring and fall migrations. Since the turn of the century there have been no migration records of whooping cranes appearing outside of the Great Plains area.

An unusually impressive looking bird, the whooping crane is long-necked, spindly legged, stands up

to five feet in height, and has a wingspread of seven feet. Long feathers on its back curl down over the ends of black-tipped wings. In flight, its neck and legs are completely outstretched. Amplified by its extremely long windpipe, the bird's blaring, horn-like call can be heard as far as three miles.



The yellow bass is a true member of the sea bass family and in reality is a small freshwater edition of the salt water striped bass. Jim Sherman Photo.

THE YELLOW BASS

By Lou S. Caine

Due to the comparatively restricted area which it inhabits, the yellow bass is not widely known. However, it would be of benefit to the over-all fishing picture if this fish were propagated more extensively because it has outstanding fighting qualities.

The yellow bass is closely related to the white bass and white perch, resembling them in body structure, is a true member of the sea bass family and in reality is a small freshwater edition of the saltwater striped bass.

It is a ready taker of artificial lures and flies and deserves a place of high rank among our larger panfishes. In fact, many anglers who have made a close study of this fish place its scrapping qualities on a par with the black bass.

Generally speaking, the yellow bass resembles the white bass; however, the lower jaw does not project forward as far as that of the white bass, but can be termed even with or slightly receded from the upper jaw. The yellow bass does not have teeth at the base of its tongue whereas the white bass does.

In coloration, the yellow bass has a brassy, yellowish cast which assumes a light green shade towards the back. Distinct black longitudinal stripes, usually 7 in number, extend along the body from gill cover to the base of the tail. Those stripes appearing below the lateral line are broken or offset on the rear third of the body.

Primarily a southern fish, the

yellow bass is most abundant in the Mississippi Valley. It ranges north, however, as far as southern Minnesota, Wisconsin, Illinois, Indiana, and Ohio; south to Texas, Louisiana, and Alabama. It is abundant in Clear Lake in Iowa.

Although the yellow bass is found in large rivers, it is most abundant in lakes and evidently prefers this type of water. Early in the season it will be found frequenting the more shallow waters, especially around and over bars.

While the average size runs from one to two pounds, yellow bass slightly over five pounds have been reported and three pounders are not rare. There is no authentic world's record.

In flavor it is excellent and the best tasting member of the bass family, outranking the white perch and white bass.

Yellow bass are lusty feeders and the noise they make while churning the water in pursuit of a school of small fish is audible for some distance. Their favorite food is minnows but they will take also shrimp, worms, insects and flies.

When on the feed, yellow bass will strike anything resembling a minnow or small fish. Favored lures, however, are small plugs like the midget digit and midget river runt, together with pork rind lures, spoons, and spinner and fly combinations.

Yellow bass are an ideal fly rod fish and give an outstanding fight when taken on light tackle. Fly rods in the four to five ounce class having "standard trout" action are recommended.—**Heddon Fish Flashes.**

Moles do have eyes, but because of the earth they must travel through, they are set so deep in the fur that they cannot be seen unless the hair of the fur is parted and the head closely examined.



The yellow bass is abundant in Clear Lake and early in the season is found in comparatively shallow waters over bars and in the open waters of weed beds. Jim Sherman Photo.

"WHITE MAN UNHAPPY"

Charles Eagle Plume, an Indian lecturer, tells of an old Indian who was entertained in one of our large cities. He was taken to the best night clubs, heard the swing bands, and was shown how white men have their fun. He sat through a number of movies. He was feverishly rushed from place to place and given a taste of modern life in all its phases.

What did the old Indian have to say about it all?

As the story goes, just this:

"White man must be unhappy—work so hard for have good time—no have good time at all."

The old Indian found more satisfaction in watching the sun go down every evening as his ancestors had done, than in rushing here and there as the white man does.

No better testimonial has ever been written for the love of outdoors than those sentences above. There is much peace and happiness in quiet things. Casting in still waters. Awaiting a squirrel in the dim light of dawn. Moonlight on rippling water. The glowing embers of a camp fire. The silent stars. Tree leaves rustling on a hill top.

And the story ends with a hint that the Indian trail to happiness is worth following and that there is a healing for jangled nerves and tired minds in toting a gun in the woods, the hills and on the mountaintops and in flicking a casting or fly rod along singing streams.—**Kentucky Happy Hunting Ground.**

Outdoorsmen are the only class who ask that their sport be taxed. They have demanded fishing licenses, hunting licenses and federal duck stamps so that funds would be available for the stocking, management and protection of fish and game.

Curriculum . . .

(Continued from page 81)
tices in the light of their inevitable consequences.

Farmers then cannot continue to deplete their water resources, strip their woodlots, and mine their soil. By so doing, they may answer the immediate demand for food and fiber. But they will also deteriorate the future production of their farms.

There is no paradox in this challenge to American agriculture. The farmer is not forced to choose one of two alternatives—the first, to produce abundantly while neglecting the conservation of our agricultural resources; the other, to conserve these resources while falling short of the abundant production the world demands.

The choice is unnecessary. It has been demonstrated that the farmer can produce abundantly and at the same time practice conservation. Indeed, by practicing conservation diligently, the farmer may be able to produce even more abundantly.

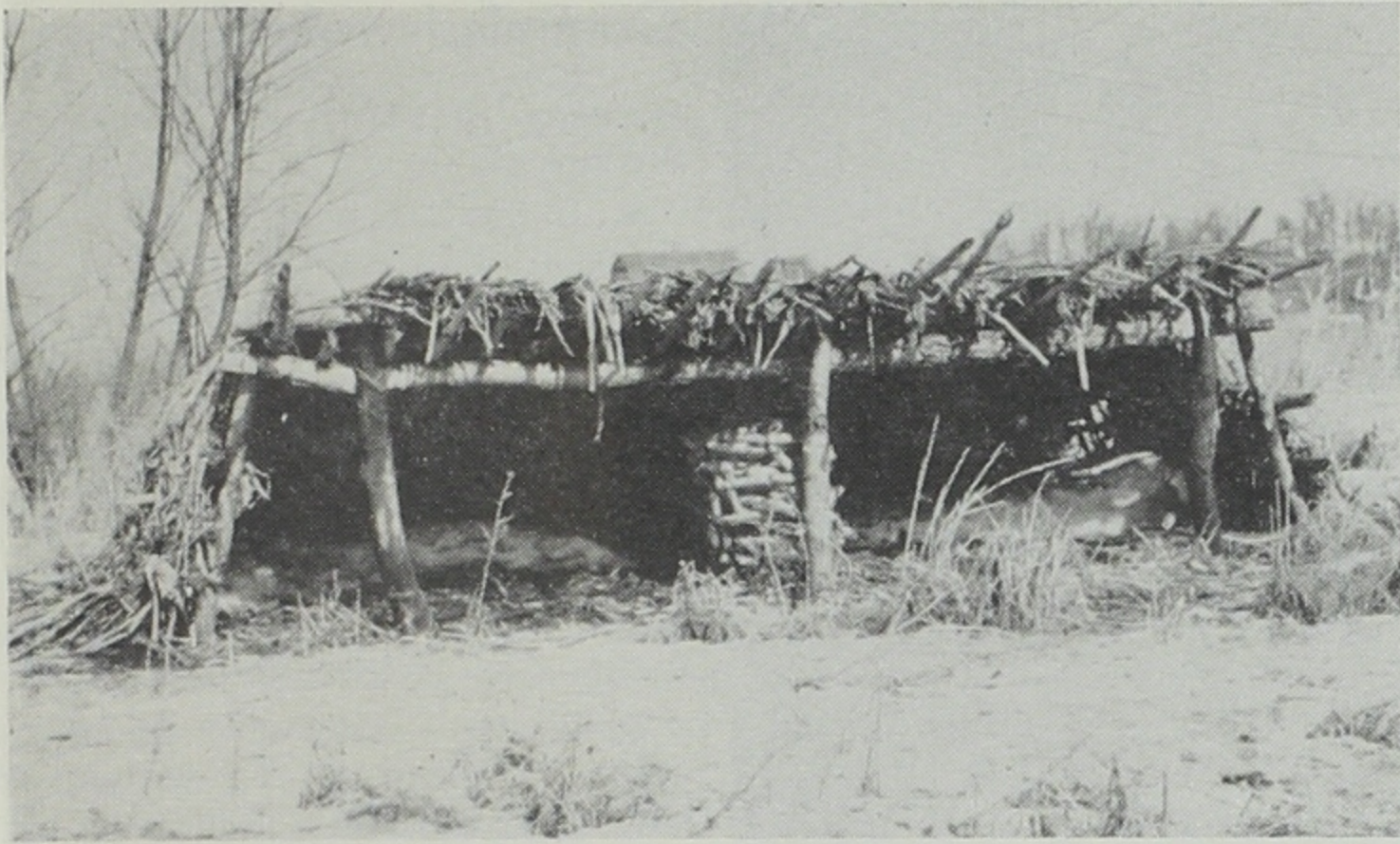
Through good management many a farmer, while building up the fertility of his soil and the productive capacity of his land, has increased his immediate yields of grain, forage crops and timber. In the files of the Soil Conservation Service, there are many examples of conservation and abundant production going hand in hand.

Unfortunately some farmers are not aware of this, and they must be "sold" on conservation. Others, already "sold," need technical help in planning conservation practices and programs.

Our educational institutions should take the lead both in "selling" conservation practices and in furnishing the technical advice and trained personnel so often needed in conservation.

To do these adequately, our agricultural colleges and universities, especially, might establish a new curriculum—a curriculum in conservation. We are planning such a curriculum at Washington State College. This curriculum should seek to establish a single goal—the conservation of all of our natural resources through methods and programs that are inter-dependent, not independent. It should bring together and synthesize the available knowledge on all phases of conservation. It should stimulate research. And it should inform and train young people in conservation work.

Such a curriculum, I believe, would put new vigor into our conservation effort. To agriculture alone, it would bring untold benefits in sound advice, new knowledge and technical aids on conservation. Were such a curriculum already established in our educational institutions, American agriculture and American forestry would be facing today's challenge with greater confidence.—**Fertilizer Review.**



On public shooting grounds, where ideal cover conditions cause heavy winter concentrations of game birds, large feeding stations are maintained only during unusually severe winters.

Winter Feeding . . .

(Continued from page 81)
winter is to provide each species with the natural food and cover it needs. This is done by helping nature grow the right plants in the right places to provide these things. If the land does not produce these plants, or if they have been destroyed, no amount of winter feeding and shelter building is going to save or bring back the wildlife that has been lost.

When Feeding Is Important

This all makes it seem that it would really be better not to feed wildlife, even in winter. In general, that is exactly right, but there are two important exceptions—two reasons why a winter feeding program is sometimes either necessary or desirable.

One reason is that no matter how much wild food there may be, when deep snows or thick ice cover it so it can't be reached for a week or more, many wild creatures may starve or suffer unless we make food available. Such abnormal weather does not occur often, but when it does the effects may be quite serious.

The other reason for winter feeding applies particularly to songbirds: Safe feeding stations are useful to attract winter songbirds to places where they can be more easily studied and enjoyed. These two cases—emergency feeding to help game live through bad weather, and winter-long feeding to attract songbirds, are entirely different, and each has to be handled in a special way.

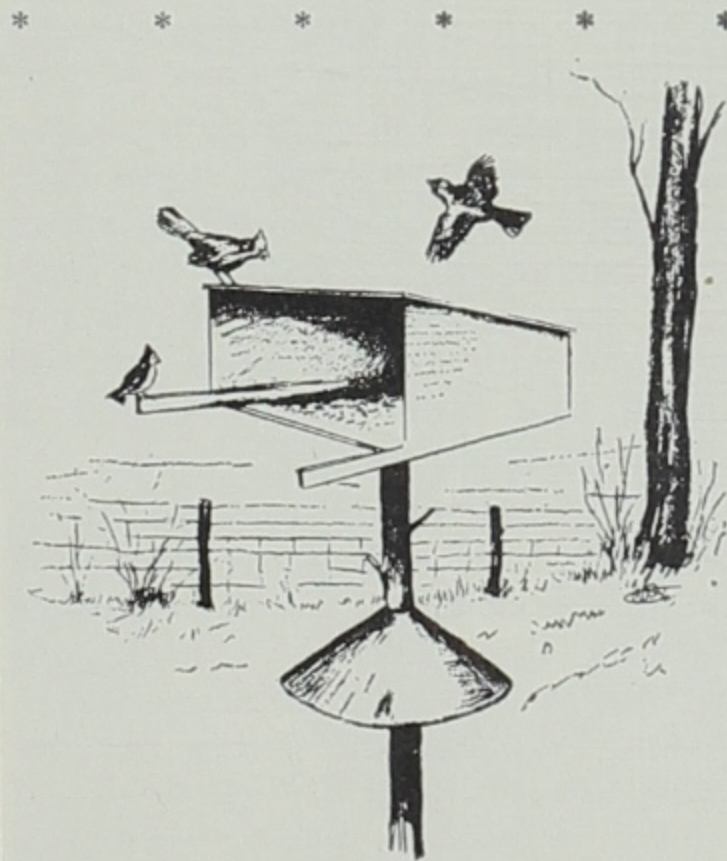
Emergency Feeding of Game Birds

Quail, and other ground-living birds, are the ones most likely to suffer when deep snows or thick ice come, because they get most of their food at or near the ground level. The problem in emergency feeding of these and other ground-dwelling birds is to know when to feed, what kind of food to use, and how to put it out.

When to Feed: Snow that lasts only a few days, or thin ice on ground or plants do not call for a winter feeding project. In case of

a really serious emergency, the Conservation Commission will call your attention to the need; if conditions look bad in your neighborhood, you can call the conservation officer for advice as to whether or not it is time to start feeding.

What to Feed: Mixed scratch-grain chicken feed is a good all-around food. Also good are cracked or whole corn, cane, kaffir, sargo, and Milo maize, used separately or mixed together. None of these



The conventional backyard feeding station is welcomed by lazy birds that do not like to scratch for a living. They provide good opportunities to study the winter birds.

grains need to be shelled out, as all of our game birds can pick the seeds from the heads or ears. Never feed moldy grain, it is often harmful to quail and turkeys.

A supply of grit is necessary. If sand and gravel are not naturally available, place grit, like that used for chickens, with the feed.

How to Feed: There are three important things to remember in feeding game birds: (1) Put food in a protected place, where the birds can find it; (2) see that food is available every day; and (3) keep feeding as long as the deep snow or thick ice lasts, and until natural food can be found again.

Food should not be scattered out in the open or on the snow.

Find a place the birds are using—a patch of brush or briers, an overgrown fence-row, or hedge, or similar good natural cover. Then right in or against this cover make a shelter of brush or fodder, to protect the food from additional snow or freezing rain. A good plan is to build a combination feeder-shelter as shown in the accompanying illustration, by making a lean-to of corn or cane fodder, leaving the ears or heads on. Remember that a shelter cannot make up for lack of natural cover, and that it may act as a trap unless it is open clear to the ground on at least three sides, and has about two feet of head-room. Think of the shelter as being mainly overhead protection for the food, and not as a "house" to keep the birds warm.

One sheltered feeding-station for each covey of birds is enough.

Put out enough food to last for at least three days. Daily feeding is not desirable; it disturbs the birds too much. If the combination feeder-shelter shown is used, it is necessary only to bend down a half-dozen ears or heads so they hang within three or four inches of the ground, every three or four days. Strip back the husks from the ears of corn, so the grain is exposed. A half-shock of corn or a shock of cane will provide shelter and enough food to carry a covey of quail through a month or more of bad weather.

You can think of other self-feeding plans, such as hanging a burlap bag holding a gallon or two of grain under the shelter so it just clears the ground and punching a few holes near the bottom so the grain trickles out or is picked out a little at a time. Visit this type of station twice weekly to renew the supply and to see that it is working well.

Feeding should be carried on as long as the birds need it or it should not be started at all. Birds need food during the last few days

of an emergency period even more than during the first part. When they get used to being fed, they find it harder to shift for themselves if the supply is suddenly shut off. To stop feeding while the extra food is needed is not only poor conservation, it is also very bad sportsmanship.

Feeding Stations for Songbirds

Our winter songbirds are generally less handicapped by deep snows than quail are. They fly so well that they can find food above the snow, and they can go farther in search of food. Yet they quickly find and use food placed out for them. You can learn a good deal about songbirds by observing them at a feeding station placed near a window. Safe feeding stations will do them no harm compared to the enjoyment and information that can be gained.

When to Feed: Songbirds may be fed whether conditions are bad or not. But once they have come to depend on the station, they should be fed every day until natural food is available again or till they leave of their own accord.

What to Feed: Use scratch grains, cereals, bird seed, suet, nut meats—even bread crumbs or meat scraps. Like quail, songbirds need grit, too.

How to Feed: Place the food on platforms or tie it to branches, well above the ground where prowling cats can't reach the birds. The best plan is to build a feeding station as shown in the drawing. Notice that the roof protects the food, and the metal guard keeps cats from climbing the pole. Set the pole as close as ten or twelve feet to a window, on the sunny side of the house, and if possible, where trees give some protection from the wind.

Place loose feed in small trays nailed to the platform, using a step-ladder, or reaching out from the window with a ladle tied to

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The winter birds at the feeding stations may become very tame. Here a tufted titmouse is helping himself to a walnut held in the hand. Merle Jones Photo.

Worms . . .

(Continued from page 85)

some keen-eyed bird and sacrificed as a meal. You have doubtless seen, on countless occasions, some bird tugging away at a protesting worm, and perhaps you have even tried to pull one out of its burrow, only to find that this is not easy.

The reason is that the earthworm possesses numerous tiny, bristle-like projections or setae, which serve as anchors upon being embedded into the walls of the burrow. These setae, which are moved by muscles, are also used in locomotion, and serve the same purpose as the scales on snakes.

The earthworm moves about by a peculiar, crawling movement which is produced by two sets of muscles which are to be found directly under the skin. One set runs in a circular direction around the body, the other lengthwise. When the animal crawls forward, the anterior region is moved forward by the contraction of the circular muscles in this region. The anterior region is then anchored to the ground by the setae, which can be turned so that they point in the opposite direction from that in which the animal is moving, and a posterior portion is drawn up by the contraction of the longitudinal muscles. This portion is then anchored in like manner as the anterior portion, and a more posterior portion is drawn up.

For some reason, the earthworm cannot seem to find its way back to its burrow if it leaves, and so it anchors itself by its tail to the walls of its home while it stretches over the surface of the ground in search of food. It includes in its diet earth, leaves, flowers, raw meat and fat.

The earthworm has no ears, yet is sensitive to vibrations. If placed in a flower pot on the piano, it will draw back into its burrow immediately when a note is struck. It has no eyes, yet is very sensitive to light. If a beam of light is thrown upon it, it will "dash like a rabbit" into its burrow.

Darwin estimated that one acre of ground may contain as many as 50,000 earthworms, and they may carry more than 18 tons of soil to the surface in a single year; while in 20 years they may transfer a layer of soil some three inches thick. He also speaks of a stony field which was so changed after 20 years that a horse could gallop over it from one end to the other without striking a single stone. The success which you have with your garden may be determined by the number of earthworms in your plot.—**Massachusetts Horticultural Society.**

If you are driving your car on back roads or trails on your hunting trips, here is a good tip to remember. Don't straddle rocks. Drive over the rock with one wheel. If too high to climb, build up with other stones or rocks.



Hunting is the sport of kings and it will continue to be the safest form of outdoor recreation only if the participants remember to use good judgment at all times. Jim Sherman Photo.

Nowadaze . . .

(Continued from page 81)

you pull back both hammers on your trusty double-barrel 12-gauge and now you're all set!

You level your gun straight ahead and prepare to shoot at the first moving thing you see. How else can you be sure that a pheasant isn't going to get away on you? You have an idea that another party of hunters is advancing toward you from the other side of the field, but since you are each covering about six rows of corn, and since those people are doing the same, the odds are three to one that you won't hit one another, and that's a pretty good percentage.

Never wear a red-colored jacket or cap because it makes you look darn conspicuous. It's a lot nicer to blend with the general outdoor color scheme. If you're hunting in a corn field in the fall when the leaves have turned to a dark yellow color, wear that kind of a jacket. It will make it a lot harder for the pheasants to see you. Besides, it just looks good.

About this business of male and female birds—if you want to be sure not to let any of the males get away on you, it's best to blast at every pheasant that gets up. After you've shot 'em down there's always plenty of time to tell whether it's a male or female. It just can't be emphasized too strongly that when you're out hunting, you've got to shoot at everything that moves if you want to get results. (This does not, however, apply to snowy egrets if and when they are flying directly overhead!)

Sometimes you'll find a farmer who has nerve enough to be husking corn in the same field in which you are hunting. Of course, it's his land and his corn, but if he

wants to take a chance and husk corn while you're in the same field hunting, that's up to him. Another thing—you can't afford to pass up a shot at a pheasant just because the bird flies in the direction of him and his wagon. Just yell at him to duck and bang away. That's the courteous thing to do.

Remember, your job as a hunter is to see that after you leave that cornfield, there's not a living thing left behind you. That's the only way you can be sure you're not lying to your friends when you tell them that you never scored a single miss all day!

If a party of hunters wants to play it really smart, at least one fellow takes along a rifle. There's nothing like putting a little uncertainty into any hunting expedition. A rifle will carry far beyond the limits of a corn field and isn't it a nice surprise to emerge from a field and find a nice baby beef all dead and ready to butcher in the adjoining pasture!

If you follow your own hunting code to the letter and shoot at everything that moves you'll naturally need to have along a lot of shells. Whatever you do, however, save room in one of your hip pockets for a pint of Old Taylor. You've simply got to keep "A-glowin'" if you want to see rabbits or pheasants in pre-war numbers.

This also makes it so much easier to hit the birds. Whenever you see a group of three of 'em, all you have to do is aim at the one in the middle. You'll find that in nearly every case, all three of 'em will drop. It's really remarkable what a potent mixture gunpowder and alcohol can prove to be.

At last the happy day is over, and strange as it seems, you are still alive! You throw your loaded

Commission Action . . .

(Continued from page 82)

Hershey of the Iowa Geological Survey.

Authorized investigation of restoration of tunnel and road at entrance to Pammel State Park, for both temporary and permanent repair.

Authorized purchase of new patrol boat for Lake Manawa in Pottawattamie County.

Authorized repairs to Maquoketa Caves to permit safe foot traffic through them.

Requested Attorney General's office to serve an injunction on Concrete Materials Company to stop them from washing out gravel into the Raccoon River near West Des Moines, building a bar across the river.

Closed certain areas to trapping for 1948-49 trapping season, each area to be set up as a refuge during the trapping season.

Set aside an area in South Twin Lake in Calhoun County as a migratory waterfowl refuge.

Appointed Lester L. Pike to position of District Supervisor of Officers with headquarters at Osceola.

Appointed Bernard Severson to position of Area Game Supervisor with headquarters at Emmetsburg.

Accepted resignation of Conservation Officer Claude Alexander, effective October 17.

Authorized Washington and Jefferson counties be designated a territory and that a conservation officer be assigned to this territory.

Authorized repair of access road on Big Wall Lake in Wright County.

Approved plan as presented for drainage of West Swan Lake in Emmet County.

Authorized installation of permanent fish trap at Ventura Marsh entrance into Clear Lake.

Meeting adjourned.

Winter Feeding . . .

(Continued from page 87)

a long cane pole, to put in the food. Some people like to mold suet, small grains, and cornmeal into a ball and place it in a loosely-woven string bag tied to the platform or a branch for the birds to pick at.

You can think of other ways that may suit your particular needs best. The main thing to remember is to feed where the birds will be safe from cats, and, once feeding has started, to keep it up all winter. Don't forget the grit.

gun back into your car, along with the guns of your companions, and start for home. Why unload the weapon when you'll just have to load it up again next time before you start? Anyway, if somebody monkeys with the gun at home and it happens to go off, it will teach them a lesson to be more careful with firearms in the future.

—**Waverly Democrat.**