

WILDLIFE



Conservation
on the Farm



by Aldo Leopold



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**Wisconsin Agriculturist
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Recipes for Rural Conservation

Don't graze the whole woodlot. Fence off a part for the birds and wildflowers.

Don't burn, mow, or graze the whole marsh. Protect a part as winter shelter for birds, and as a refuge for bog flowers and tamaracks.

Leave some fencerows or plant windbreaks to check the wind, catch snow, and shelter wildlife.

Leave corn or spread manure to feed the birds in winter.

Shoot only those hawks and owls actually caught taking poultry. Hawks and owls work for you night and day as mousers and rodent-police.

The farm landscape is a portrait you have painted of yourself.

Den-trees, dead snags, fencerows, bird houses, and feeding stations are the visible evidences of your hospitality toward wild things.

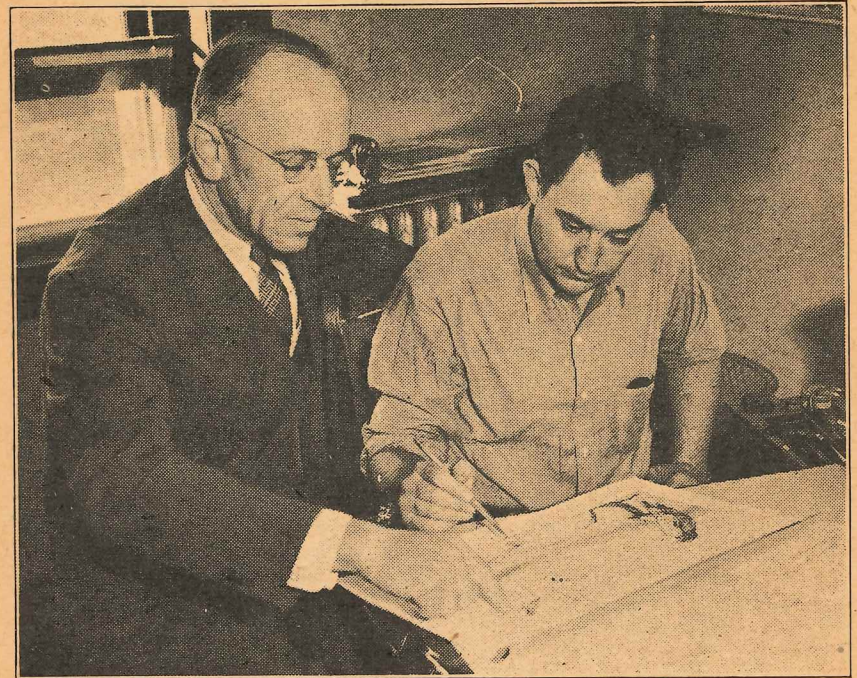
A remnant of each of the plants and animals originally native to your farm is visible evidence that it grows historical perspective as well as butter fat or cheese. He who knows what his land was is a safe custodian of its future.

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Wildlife Conservation on the farm

By ALDO LEOPOLD

Drawings By Byron Jorns



HERE is the author of our exclusive series on nature and wild life on the farm, which has been published at regular intervals during the past years. The series was continued with appropriate subjects according to season. Prof. Aldo Leopold was one of the foremost conservationists in the country. He was an outdoor man, a naturalist and bird expert. Likewise for many years he was one of the country's leading archery enthusiasts and both he and Mrs. Leopold are widely

known for their skill in making bows and arrows, and as expert marksmen.

The artist, Byron Jorns, is a native of Portage, Wisconsin, received art training at University of Wisconsin and Art Institute of Chicago. He is bulletin illustrator for the Wisconsin College of Agriculture, Madison. Being himself an outdoor enthusiast, Mr. Jorns takes to the sketches for this series like a duck to Wisconsin ponds.

Woodlot Wildlife



Hollow trees make homes for the wild creatures

IN Europe, foresters for two centuries tried to clean the woods of every dead, hollow, or defective tree. They succeeded so well that woodpeckers, squirrels, owls, titmice, and other hole-nesting birds have become alarmingly scarce. In Germany, I saw dead oaks laboriously being riddled with auger-holes to encourage woodpeckers.

In Wisconsin, we pay a hunting license to restock the state with raccoons, and at the same time we are chopping down the last hollow trees in which a coon can live. We maintain a closed season on ruffed grouse in the southern woodlots, but grouse are rapidly disappearing from them because the down logs needed for drumming, and the brush needed as cover, are being removed.

This does not make sense. A few hollow trees, especially durable live basswoods or oaks, and a few dead and down logs, are essential to a balanced assortment of wildlife on the farm. The fur-bearers and the squirrels, the rodent-eating owls, the insect-eating woodpeckers, chickadees and blue-birds, are all dependent on dead wood for their breeding places, and hence for their existence.

Hollow apple trees in the orchard, while admittedly not good horticulture, are especially attractive to screech owls, crested flycatchers, and flickers.

Dead willows in the marsh, after being riddled by woodpeckers, are al-

most sure "bait" for tree swallows. Dead willows in the southern counties, if over water, may also harbor the beautiful prothonotary warbler.

Wide shallow cavities in creekbank trees are the nesting place of the wood duck.

Tall dead snags near lakeshores always have a chance of becoming an eyrie for the bald eagle or the fish-hawk.

If you are lucky enough to have otters on your stream, think twice before you cut a hollow tree with the entrance under water. It may be the "holt" where otter pups are born.

Any hollow tree may become a bee tree. There was a time when no cane or beet sugar was to be had in Wisconsin; one ate honey or maple sugar or went without.

When cutting wood this winter, it is well to remember these manifold uses of defective trees.

On the upper slope of many Wisconsin ravines there are limby crooked bur oaks and white oaks, often with hollow limbs. These veterans grew in the open. They mark the edge of the former prairie. Scars of old prairie fires are imbedded in their stumps. They have escaped cutting because they are crooked and short-boled. Quite aside from their value as den trees, these veterans should be preserved as historical monuments. If your boy can learn to read their history, he will understand better the meaning of his home state and his home farm.

The Farm Pond

IN THE dust bowl thousands of artificial ponds are being built, with government help, by farmers who learned during the drouth to appreciate water. Some day Dakota may build as many ponds as Wisconsin has drained.

The farm pond has many uses: stock water, muskrats, pan fish, water lilies, and last but not least, waterfowl.

Jack Miner, an Ontario farmer, had a small pond behind his barn. Like most ponds, it was duckless, having been "burnt out" by too much shooting. Jack Miner quit shooting, put out some live decoys and grain. A few wild birds began to drop in. Within a decade ten thousand Canada geese were visiting his refuge each spring and fall. So spectacular a success is, of course, not to be had by all, but any pond, even if temporary, can attract at least a few interesting waterfowl. The time to start is spring.

The first essential is to exclude all shooting. As soon as the ice breaks, put in a few live decoys, preferably pinioned wild ducks, and some feed, preferably corn. It is illegal to use either live decoys or grain bait on a shooting pond, but on a refuge they are both legal and proper. Avoid too many decoys; they roil the water. If crows and blackbirds are bad, put the feed on a shallow bar under water. If you have no bar, build one by hauling gravel on the

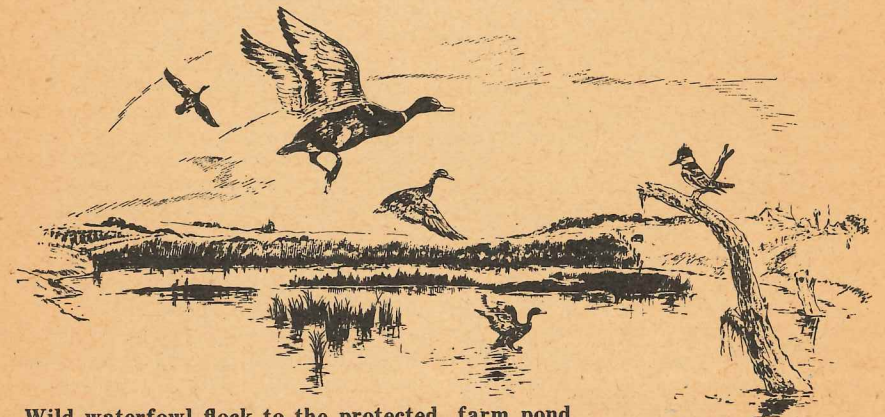
ice. If carp prevent placing the feed in the water, feed on an open beach. Diving ducks like bluebill and redhead, however, will not readily find grain unless it is in the water.

Once the ducks start to use your pond, both the numbers and kinds will increase as long as protection is maintained. Some kinds, notably bluewinged teal and mallards, may be induced to stay and nest.

For the greatest variety of bird life, part of the shoreline must be bare of cover. Shorebirds, geese, and most ducks like to loaf where they can see in all directions.

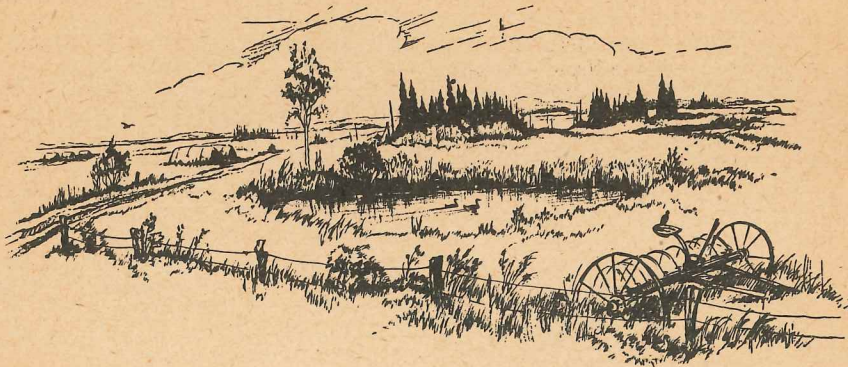
Kingfishers and terns add greatly to the summer bird life of a pond. To attract kingfishers, plant a few dead snags with limbs overhanging the water, and leave a steep bank in the nearest gravel-pit for the birds to excavate their nest. Such a bank will give you hundreds of nesting swallows as a "dividend." To attract terns, build a raft and anchor it in the middle of the pond. Such a safe loafing place is infallible bait for terns and perhaps gulls.

To merely attract birds is only half the game. The next thing is to distinguish the various kinds, to learn the habits, calls and plumages of each, where they come from and where they go. Some of your callers will be on their way from Carolina to Saskatchewan; others from Patagonia to the Arctic seas. All they ask of you is something to eat and a safe place to wet their feet.



Wild waterfowl flock to the protected farm pond

The Marsh



Marshes make fine refuge for wildlife

SHALL we fire the marsh?" This is a question which faces the owner of marshlands, especially in the spring following a wet year.

Burning does not hurt a marsh if the soil is wet, and if infrequent enough so that the bushes resprout. But burning which consumes the peat soil is ruinous to all living things. Even light burning, if repeated annually, gradually kills all bush growths, and when the bushes are gone the marsh loses its cover value for birds during deep snows. In hard winters like 1935-1936, quail and pheasants survived only in bushy marshes with feed nearby. All other growths were squashed and buried by snow.

Frequent Burning Bad

The farmer who prizes his birds should therefore be careful to keep part of his marsh in bushy growths of dogwood, willow or elder. If he must burn, he should confine the fire to the area to be cut for hay, keeping it out of the area to be left as bush cover.

Here is an actual case—in 1933, I met a farmer burning a peat pot-hole "to get rid of the ragweeds". I asked if he had burned before. Yes, he burned every year. I persuaded him that perhaps fire was the cause of the ragweeds. He agreed to try the idea, and has not burned since. By 1937, the ragweeds had disappeared, having been replaced by aster, goldenrod, dogwood, and elder. A

feeding station was maintained in this pothole every winter. While it was still in ragweed (the giant variety), not a bird could be persuaded to use the station. As the more varied vegetation gained a foothold, the game population began to build up. Last winter this 8-acre pothole carried 28 pheasants, 20 Hungarian partridges, and 21 cottontails.

Marsh wildflowers as well as marsh game birds suffer from too much fire. Most of the ladyslippers, pitcher plants, and other bog flowers thrive only under the shade of tamaracks. Repeated marsh fires push back the tamaracks until they disappear. Some ladyslippers require live sphagnum moss to grow in, and hence are destroyed by fire. Most Wisconsin marshes have already lost all their tamaracks, and with them most of their bog flowers, through the combined action of fire and grazing.

Curiously enough, some birds require freshly burned marsh for nesting and feeding. The Brewer's blackbird, for example, nests in Wisconsin only in freshly burned cattails. Jacksnipe and geese like a burned marsh for feeding during the spring migration. A few valuable bird foods, especially the false climbing buckwheat, are greatly increased after light-burning a peat marsh.

Needless to say, if fire is to be used at all it should be used early, before nests are built. There is truth in the old saying: "Fire is a good servant, but a bad master".

Wildflower Corners

Aldo Leopold and John Curtis

WISCONSIN wildflowers are of three groups: the prairie flowers, the woods flowers, and the bog flowers. Each group requires a distinctive habitat, each group responds differently to grazing, mowing, picking, and burning.

The prairie group, for example, is not injured by fire, provided the fire comes before or after the growing season. Fire, in fact, may be beneficial to prairie flowers in preventing trees and brush from shading them out. Grazing, however, is fatal.

Prairie plants can stand mowing if not repeated too often. One of the best ways to preserve prairie flowers in a wild haymeadow is to reserve an unmowed strip each year, rotating the location of the strip. This enables each plant to go to seed occasionally, and incidentally improves cover for prairie chickens and pheasants.

Remnants of prairie vegetation occur on ungrazed roadsides as well as in hay meadows. The best conservation method in such spots is to burn early, mow late and never graze.

The prairie flowers, in the order of their blooming, include pasque flow-

er, white and small yellow ladyslipper, blazing star, prairie clover, butterfly weed, compass plant, ladies tresses, and blue aster. Of these, the ladies tresses and ladyslippers grow only on marshy prairie. The remainder are upland prairie species.

Woods Flowers

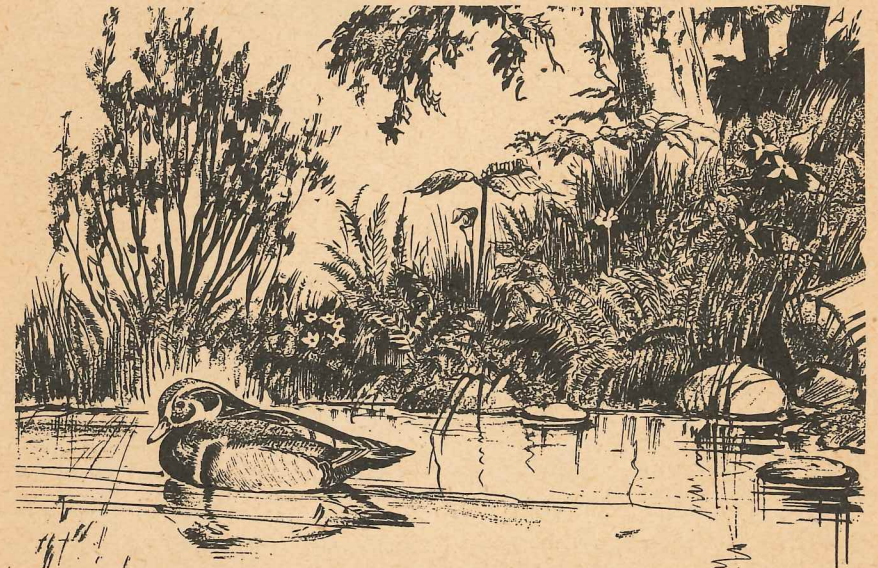
This group, in the order of blooming, includes bloodroot, hepatica, windflower, Dutchman's breeches, jack-in-the-pulpit, ginseng, white, nodding, and red trillium, blue phlox, and large yellow ladyslipper. Many ferns have the same habitat requirements, and may be grouped with the woods flowers.

Bog Flowers

This group includes the pink mocsin flower, pitcher plant, grass pink, rose pogonia, bog laurel, and bog rosemary.

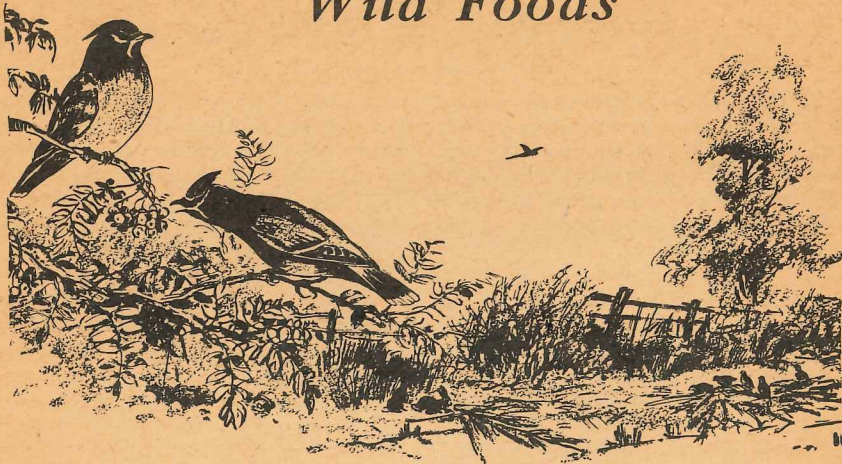
All these bog species require moist acid peat for survival. Drainage and grazing are fatal because they admit peat fires, weeds, and grass.

Conservation of bog flowers is a matter of reserving part of the bog against drainage, grazing, cutting, and burning.



A secluded corner

Wild Foods



NEARLY every farming operation offers chances either to conserve or to destroy the wild plants on which game, fur, and feather depend for food. There are many of these wild plants. Each has its own "customers" who like its products.

Winter Fruits. The most dependable yielder is the wild grape. Some vines are male and do not bear. The fall is the time to mark the bearing vines. All they need is full sun and some brush to climb on. Most game and song birds relish wild grapes, both when fresh and as dried "raisins" in winter.

"Wild" apples are valuable, especially to ruffed grouse, foxes, and deer. The fallen fruit is eaten even after it has frozen. In addition, deer eat the fallen leaves.

All the haws, crabs, viburnums, dogwoods, and sumacs yield valuable winter fruits. All they need is protection from axe, cow, and fire.

Summer Fruits. All game and most song birds feed berries to their young. The heaviest yielder among the summer berries is the mulberry. If you have none, you can make no better move for wildlife than to plant a few. They bear only in full sun.

The black cherry tree, the choke-cherry bush, the wild plum and the elder-bush are all heavy yielders of summer fruit for wildlife.

Fall and Winter Seeds. Almost any fertile soil, when cultivated or otherwise broken up, produces weed seeds

valuable as fall and winter food.

Thus any marshy spot grows smartweed after cultivation. Smartweed seeds are relished by most game birds, including waterfowl. But marsh soils, if deeply burned, produce only worthless nettles or giant ragweed.

Any upland soil, if fertile, produces foxtail or ragweed after cultivation. Both plants yield abundant seeds which are the staple winter food of quail, pheasants, Hungarian partridge, juncos, and tree sparrows. A supply of seeds can be insured by leaving a strip of oat stubble unplowed till spring, or by omitting the last cultivation on the border of a cornfield.

Peat haymeadows surrounded by brush offer excellent winter cover but usually no food. A heavy crop of false climbing buckwheat can often be secured by lightly burning small spots in the brush.

Oak woods are sure to yield a small but highly valuable crop of trefoil beans (sometimes called stick-tights) provided the cattle are excluded. Once grazed, however, a woods loses its trefoil for five or ten years. Trefoil beans are the first choice of quail, pheasants, and ruffed grouse for a winter meal.

Insect Foods. To attract warblers to the farmyard, it is well to have at least one box elder tree. Box elder seems to draw the insects they want, much as clover draws insects for poultry.

Look For Bird Bands

DEAD birds which have been shot, or found killed on highways, sometimes bear leg-bands of aluminum or colored celluloid.

Such birds have been banded for a definite purpose. Wild birds are trapped, banded, and released in the hope of tracing their migration routes. Birds raised in captivity are banded upon release in the hope of tracing their survival and movements. Banding also yields information on how long birds live.

A banded bird invariably represents a lot of work done by some scientist or conservation officer, but that work comes to nothing unless the finder reports where, when, and if possible, how the banded bird was killed.

This is a plea for your co-operation and good will in looking for bird bands, and in reporting them to the address given on the band. Most Wisconsin bands are marked for return either to the Conservation Department, Madison, or to the United States Biological Survey, Washington, D. C. If in doubt, send the band to the Conservation Department. You

will receive a return report telling you where, when, and by whom your bird was banded.

Here are some examples of valuable facts gleaned from banding reports:

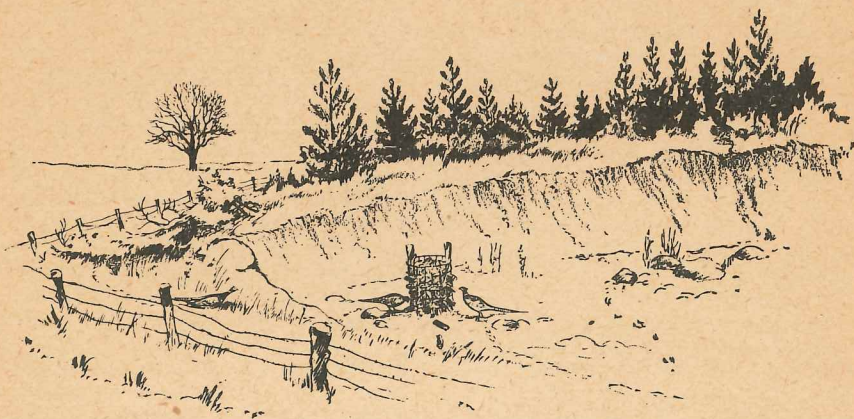
A farmer near Ladysmith found a banded prairie chicken dead on the road in summer. It had been banded two years before at La Crosse, in winter. This one bird answered a question which had been in dispute for years, do Wisconsin prairie chickens ever migrate? This bird, a hen, had migrated a hundred miles.

A farmer in Sauk County trapped and banded all the chickadees which came to his feeding station. After a dozen had been marked, no more unmarked birds appeared in the trap. This gave a reliable census of the local population. Next summer several marked chickadees were seen nesting nearby. This showed that part, at least, of the summer chickadees were yearlong residents. Next winter about half the original dozen reappeared at the feeder. This showed that during the year half the population either moved or died.



Look for the band when you find a dead bird! This aids the record makers in this work

Evergreens For Cover



Young evergreens furnish more shelter for more wildlife per square rod than any other growth

YOUNG evergreens furnish more shelter per square rod, for a greater variety of wildlife, than any other vegetation. The farmer who wants to hold his birds in winter, but has only a few odd corners to devote to cover, will do well to plant evergreens on them.

It takes five years, however, for small evergreens to reach a size useful as wildlife cover. Failure is probable if maintenance is neglected, or if the kind of evergreen does not fit the kind of soil.

On any limey soil, any soil which will grow alfalfa or clover without liming, I recommend red cedar and creeping juniper for dry locations, white cedar for moist locations. On acid soil use white pine, white spruce, or Norway spruce for moist situations; red (Norway) pine, jack pine, or Scotch pine for dry situations.

Evergreens And Shade

White pine, spruces, and white cedar do best in partial shade. Red pine and jack pine tolerate little or no shade. If in doubt about what kind of evergreen to plant, select the kind native to the locality.

Use nothing smaller than 2-2 stock, i.e., four-year-old trees which have

grown two years in the seedbed and two years in the transplant bed. In heavy grass or where rabbits are thick, even larger stock is desirable. White pines and spruces may be wiped out by rabbits unless the stock is large enough for the tip to be out of reach. Red cedar is rabbit-proof; jack pine is proof against cottontails, but not snowshoes.

If you must use stock smaller than 2-2, put it in the garden and let it grow until at least a foot high.

Diseases

If you plant white pine, make sure your farm is free of gooseberries and currants which carry the white pine blister disease. Do not plant red cedar near apples. These two species share a rust disease which may destroy both.

Grass And Evergreen Plantings Compete

The worst enemy of evergreen plantings is grass. If the planting site is sodded, I advise clean cultivation for a space of 3 feet from each tree before planting, and for two years afterward. Herbs or weeds, if not too rank, do no harm, and in

EVERGREENS FOR COVER (Continued)

the case of the shade-tolerant evergreens, may be beneficial.

On ground which contains vestiges of grass, especially quack, do not mulch or else mulch heavily. A light mulch merely protects the grass while it forms a sod.

Land frequently flooded by overflow is not suitable for planting evergreens. White pine, spruces, and white cedar tolerate short periods of flooding, but the other pines do not, especially if flooded in summer.

Red Cedar Resists Grazing

All plantings in pastures must be fenced, with the possible exception of red cedar. Red cedar resists grazing, but may be destroyed by rubbing.

Where To Plant

To make evergreens valuable to wildlife, the design and location of the plantings is important. Cold windy locations are not worth planting. If you have a warm south-facing bank, use evergreens as a wind-break to make it warmer. On such banks the drouth resistant species like red cedar, creeping juniper, red pine, or jack pine are best.

Evergreens planted for wildlife

should not be pruned. Their value as winter cover lies in the low-hanging branches which sweep the ground. As the trees grow older these low branches die, and should be replaced by a new planting of young trees.

Birds Enjoy Evergreens

Nearly all wildlife species which winter in Wisconsin make use of evergreens. Pheasants, quail, and Hungarian partridges resort to them during blizzards. Cardinals, chickadees, juncos, tree sparrows, bluejays, cedar wax-wings, and redpolls can be held without them, but they winter in greater numbers where evergreens occur. Long-eared owls, evening grosbeaks, crossbills, and pine siskins seldom winter where evergreens are absent. Wintering bluebirds and robins are especially attracted by red cedar berries; crossbills by pine or spruce cones.

There are localities in Wisconsin where no evergreen will fit. Thus there are soils too limey for the acid-loving species, too near apples to risk red cedar, and too dry for white cedar. In such localities it is better to use grape tangles for wildlife cover.

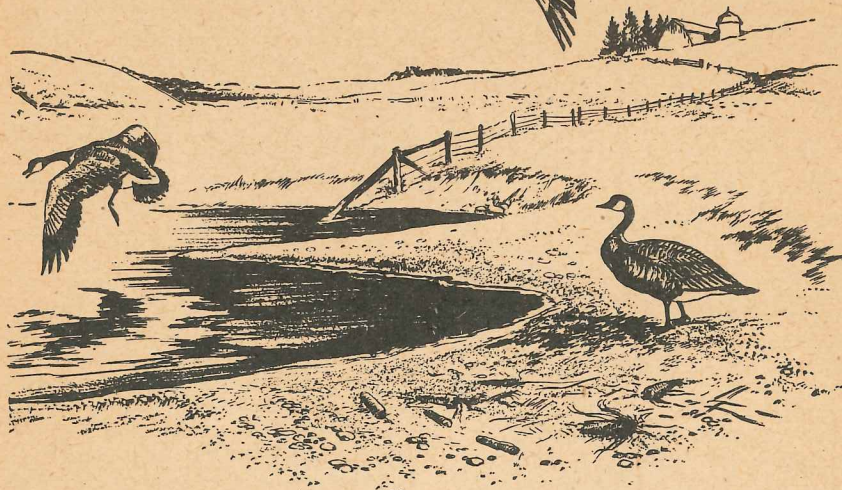


Fire is one of the worst enemies of conservation

When The Geese Return



From time im-
memorial geese
have watered at
certain Wisconsin
lakes



ONE swallow does not make a summer, but one flock of honkers, winging northward through a murky March thaw, make a spring.

What chance has a farmer to induce the migrant flocks to settle down and stay awhile? This is a practical question in wildlife conservation. The future of geese is largely a question of hospitable farmers.

If you happen to live on one of the historic "goose prairies", your chances are very good. Geese from time immemorial have watered at certain Wisconsin lakes and fed on the nearest large prairie. What they ate in the days before corn came is a puzzle, because we know so little about what plants covered the original prairie. Probably they ate the seeds of wild legumes and the bulbs of nutgrass. Today they eat corn and the leaves of winter wheat or rye.

Granted you are in or near a goose prairie, what are the requirements for attracting geese? Mainly a large bare expanse of stubble offering corn and winter grain, absolute protection, and if possible, live decoys. Live decoys for shooting are now illegal, but for "baiting" a refuge decoys are both legal and effective.

If you can muster this combination, and have patience, you will eventually attract geese.

By protection I mean complete freedom from shooting over a period of years. Geese have a long memory. Several neighbors who pool their efforts have a better chance to ban the hunter than one farmer acting alone.

Goose Ponds

A farm pond with bare shores is an additional inducement, for the geese can then dispense with their daily trip to water at a lake. The pond should contain gravel, but this occurs naturally in most Wisconsin ponds. If it offers a gravelly island, barely awash, it is ideal. Deep ponds with wooded shores and no islands or bars are unfavorable for geese.

It is astonishing that more Wisconsin farmers have not built themselves a goose-show. Once your reputation is established, the geese will pile in, spring and fall. One Canadian farmer (Jack Miner) got so many geese that the government had to chip in to help with the feed bills. If you want geese, now is the time to advertise the advantages of your farm.

Feeding Stations

IN FEEDING birds, as in feeding folks, the first thought is to see that nobody goes hungry.

Experience brings a second thought: to see that feeding does not become too easy for the good of the fed.

The first Wisconsin game bird feeders were hoppers. The birds stood up to a tray and gorged.

It is better for a bird to gorge than to starve, and hoppers are still recommended where the operator is unable to visit the station frequently. A hopper set under a roofed shelter (so as to keep ice out of the grain) is nearly automatic, and a single filling often lasts for weeks.

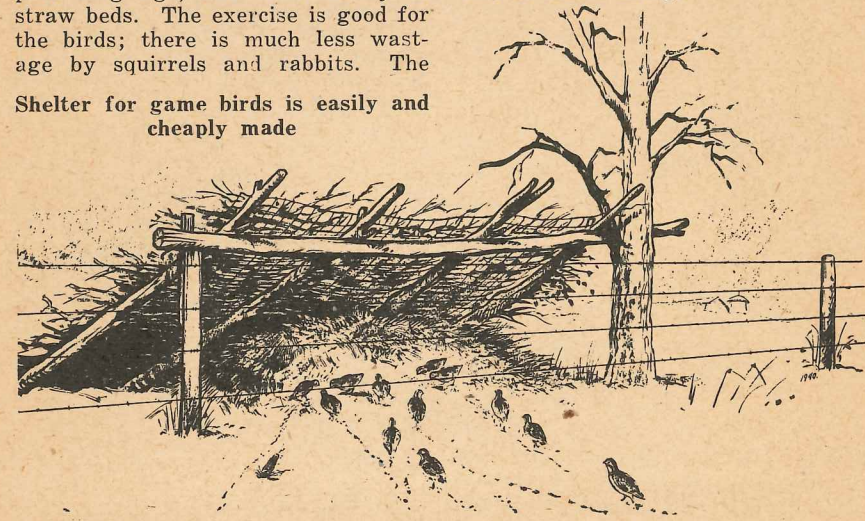
But where the operator can tend the station frequently (say twice a week) a hopper is far inferior to a straw bed.

A straw bed is simplicity itself. Build a roofed shelter facing east or south, put straw or chaff on the floor and throw shelled corn into it. Let the birds scratch and earn their keep. To notify the birds that there is grain in the straw, lay a few cobs on it, or scatter "bait" grain on bare ground nearby.

Do not use marsh hay for the scratching bed; it's too heavy. Quail can't move heavy materials.

European farmers discarded hoppers long ago, and feed mostly in straw beds. The exercise is good for the birds; there is much less wastage by squirrels and rabbits. The

Shelter for game birds is easily and cheaply made



only limitation on the straw-bed method is that fresh grain must be added every few days.

If you have saved the chaff from under the corn shredder, it is superior to straw, especially for winter song-birds. The foxtail and ragweed seeds contained in such chaff are attractive to pheasants, quail, and Hungarians as well. Beware of moldy chaff; it must usually be dried to keep well.

Don't build your shelter too tight; it should have plenty of escape holes, else the birds may refuse to enter it.

The consumption of grain from hoppers runs about as follows: two pounds per pheasant per week; one pound per prairie chicken per week; three-quarter pound per Hungarian per week; one-half pound per quail per week. Rabbits and squirrels eat two pounds or more per week, and squirrels may waste an almost unlimited amount by taking out the "hearts" of the corn.

Soy beans, buckwheat, wheat, rye, barley and sorghum are all acceptable substitutes for corn. Cracked acorns are also good.

One half of one per cent of the corn raised on an average southern Wisconsin farm will winter a good stand of wildlife. Does wildlife add one-half of one per cent to the satisfaction of rural living?

Winter Care Of Plantings

TREES, shrubs and vines planted for wild life cover require some forethought and care. Not as much as crops and live stock, but some nevertheless.

Your main winter risk is rabbits. In some years mice may girdle trees; in open winters wandering stock may browse them; in dry, snowless winters, frost may injure them.

Rabbits Prefer Spruce

Rabbit trouble begins when the young trees have emerged above snow level. It is much worse in cover than in the open. Any small evergreen planted in brushy or weedy ground is liable to be demolished by rabbits. On brushy ground the only defense against rabbits is to surround pine and spruce with cylinders of woven wire, or else to plant such large stock that the rabbits can't reach the

terminal shoot. If wire is lacking, loose bundling with straw, weed stalks, fine brush, or burlap answers the same purpose.

I have found that in underplanting woodlots it reduces rabbit damage to place trees away from trails. Rabbits seem to be conventional creatures; they hate to step off the "sidewalk".

Mice make trouble in plantations only during years of excessive abundance. The years 1935 and 1939 were high in mice. "Highs" occur at four-year intervals, so 1943 is the next in prospect.

Clean Cultivation Discourages Mice

The best defense against mice is clean cultivation. This, of course, implies planting the trees in rows. Where you are threatened with mice but it is impossible or too late to cultivate, you may be able to burn off the grass, first thoroughly wetting down each tree with a sprinkling can. A few singed limbs are preferable to girdled trunks.

All eleventh hour "cures" for rodent pests are of course inferior to natural preventatives, chief among which is a generous stocking of hawks and owls. (Every owl eats from two to five mice per night, and is well worth preserving as a mouser.) In the case of rabbits, the free use of dog and shotgun may also qualify as a natural cure, at least in the eyes of youth.



Hawks, dogs and shotguns are some of the best checks on rabbits and other rodents that girdle young trees in winter

Feed The Song Birds

WOULD you like to sit at your south window and watch cardinals, chickadees, nuthatches, juncos, tree sparrows, bluejays, and woodpeckers eat breakfast?

It is easily arranged.

First, keep a piece of suet tacked on some nearby tree. This is for the chickadees, nuthatches, and woodpeckers. If the jays carry away too much of it, cover it with wire mesh.

Second, erect a feeding tray; any flat surface set on a stump or post so as to discourage cats. Keep this clear of snow and sprinkled with cracked corn, sunflower seed, and weed seed saved from the corn shredder. Sunflower seed is particularly good bait for cardinals, cracked acorns and nuts for chickadees and woodpeckers.

If dogs or poultry interfere, fence them out by erecting a temporary fence. If starlings or English sparrows get too thick, thin them out.

Nearby evergreens, vines, or thick bushes help to hold the birds. Discarded Christmas trees are good temporary shelter.

Success in attracting winter birds is largely a question of persistence. If the birds can count on finding food, you can count on their coming after it, and each new year adds more birds of more kinds.

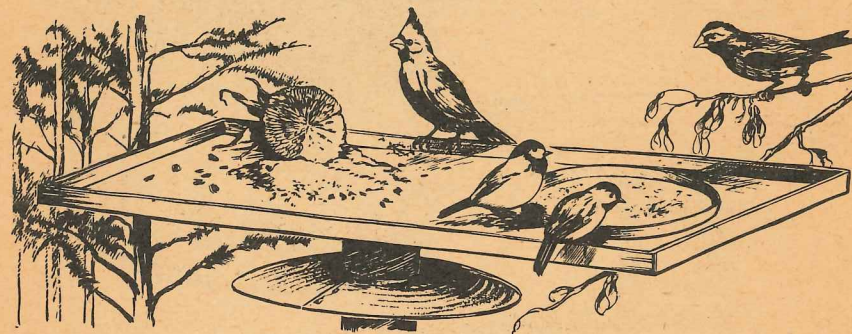
Success in attracting ordinary

birds soon whets the appetite for extraordinary ones. A mountain ash in the yard may bring cedar waxwings, or even the rare Bohemian waxwing. A box elder tree may bring evening grosbeaks. Faithful feeding of suet may bring the uncom-



mon redbreasted nuthatch. A south-facing hollow snag wired onto the top of a dense evergreen may add the screech owl to your list of guests. A good fence row, judiciously baited with corn, may lead quail or pheasants out of the fields into your doorway.

A good feeding station is the best of classrooms for learning ornithology, and one of the luxuries forbidden most city folks. You will enjoy it quite as much as the birds.



Winter table set for the birds

Bluebirds Welcome

TO NOTE the arrival of the first bluebird, like tapping the sugar bush, is an authentic ritual of spring. Most farms, however, are content to let the bluebirds arrive, and depart, without offering them a place to stay.

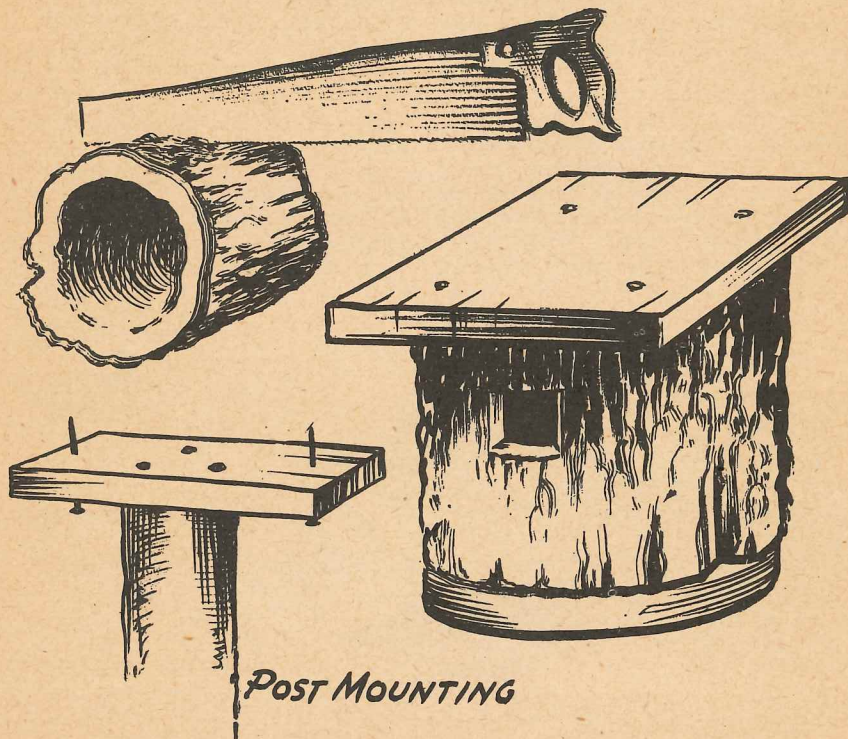
In the old days when every farm had hollow apple trees and wooden posts full of woodpecker holes, there was no need to provide housing for bluebirds. But today the hollow apples are gone, and the wooden posts are going. The more "modern" the farm, the greater the need for bluebird houses. I once tallied 100 farms and found that only 12 had bird-houses of any kind.

Bluebirds once nested in towns and villages, as well as in open country. English sparrows and starlings have completely routed them from urban habitats, and are now by way of routing them from farm yards as well. Hence an accurate 22 rifle is a good tool for rebuilding bluebird prosperity.

The trouble with the rifle is that it may be turned against hawks and owls, or other birds just as desirable as bluebirds.

The rifle is not the only way to foil starlings. One very simple way is to erect bluebird houses not over eight feet above the ground. Starlings will not nest at such low levels, while bluebirds prefer to.

Bluebird houses may be built of old lumber, but a better-looking house may be made by ransacking the woodpile for hollow sections. Most woodpiles contain hollow cylinders of convenient length (6 to 12 inches), with hollows 4 to 8 inches in diameter. Bore, chop, or saw an entrance hole in such a cylinder, tack on a top and bottom board, and your bluebird house is complete. Set it on a high fence-post, or on the top of a short pole set in the ground. Place the house in a fencerow or open pasture, never in dense woods.



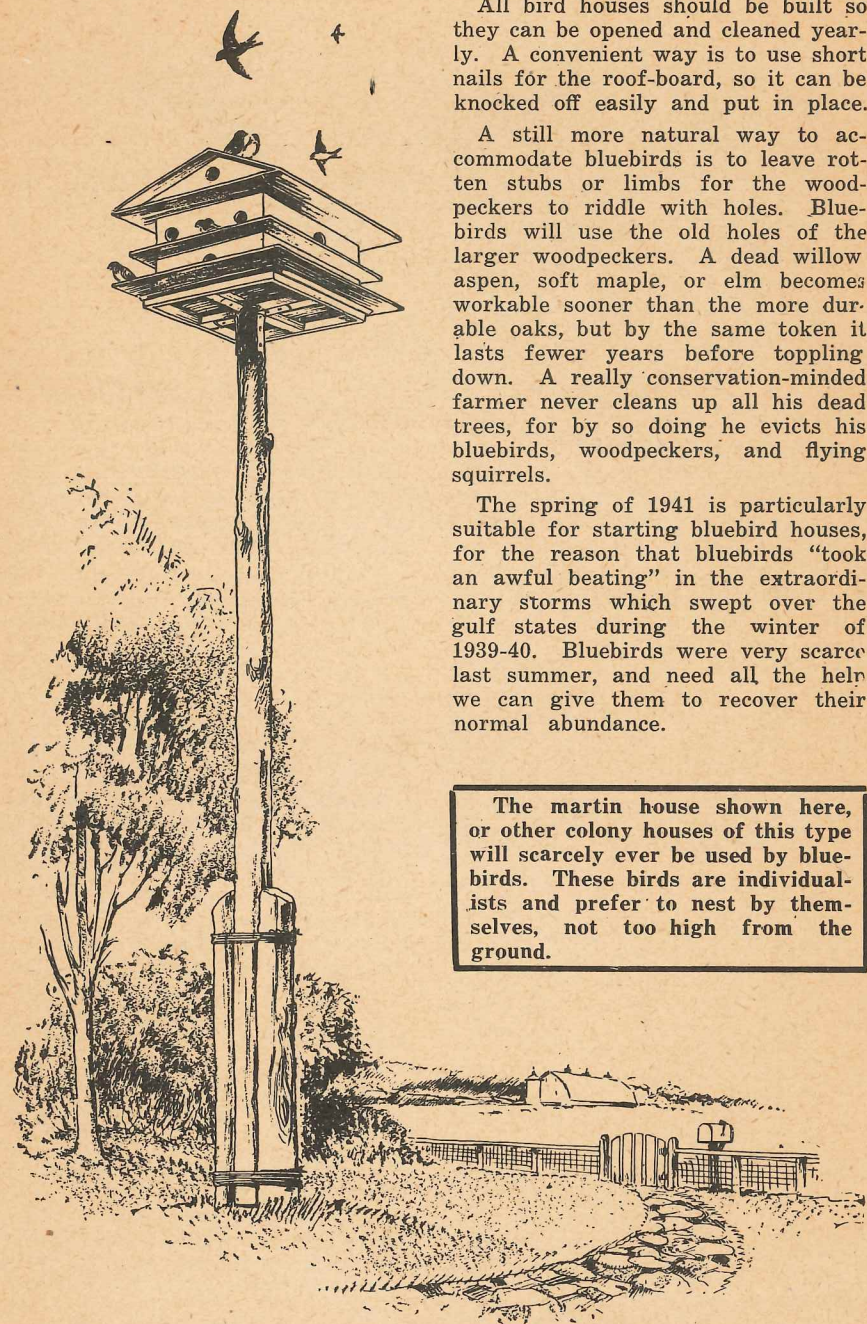
BLUEBIRDS WELCOME (Continued)

All bird houses should be built so they can be opened and cleaned yearly. A convenient way is to use short nails for the roof-board, so it can be knocked off easily and put in place.

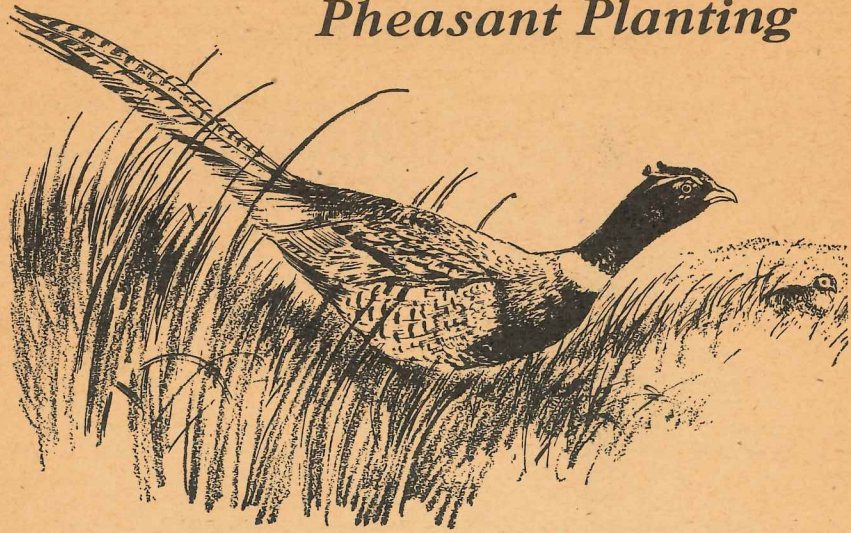
A still more natural way to accommodate bluebirds is to leave rotten stubs or limbs for the woodpeckers to riddle with holes. Bluebirds will use the old holes of the larger woodpeckers. A dead willow aspen, soft maple, or elm becomes workable sooner than the more durable oaks, but by the same token it lasts fewer years before toppling down. A really conservation-minded farmer never cleans up all his dead trees, for by so doing he evicts his bluebirds, woodpeckers, and flying squirrels.

The spring of 1941 is particularly suitable for starting bluebird houses, for the reason that bluebirds "took an awful beating" in the extraordinary storms which swept over the gulf states during the winter of 1939-40. Bluebirds were very scarce last summer, and need all the help we can give them to recover their normal abundance.

The martin house shown here, or other colony houses of this type will scarcely ever be used by bluebirds. These birds are individualists and prefer to nest by themselves, not too high from the ground.



Pheasant Planting



PLANTING pheasants, like planting seed, may yield a good crop or none at all, depending on the skill and care used. Much is known about how to raise pheasants; little about how to plant them for high survival.

First of all, the planting stock must be right. Pheasants less than eight weeks old seldom survive, and from then on survival gets better with age, up to full maturity. Under-developed pheasants survive poorly at any age. An 8-week-old cock should, if well developed, weigh 14 ounces. Pheasants which have learned foraging in roomy pens survive better than those from crowded ones.

Second, the method of planting must be right. Pheasants which learn to wander gradually from the pen "go wild" better than those dumped suddenly and violently from pen to covert. Violent releases are known to lose weight, and if this loss is severe the bird may die.

Third, the range must be right if the planting is to "stay put." It is hard to hold pheasants on bare uplands, especially after frost and shooting begins. The better the food and cover and the lower the land, the easier it is to hold birds through the fall and winter. In really severe winters it is impossible to hold pheasants except on bushy marsh, that is, marsh containing spots

where willows and dogwoods have gone ungrazed and unburned.

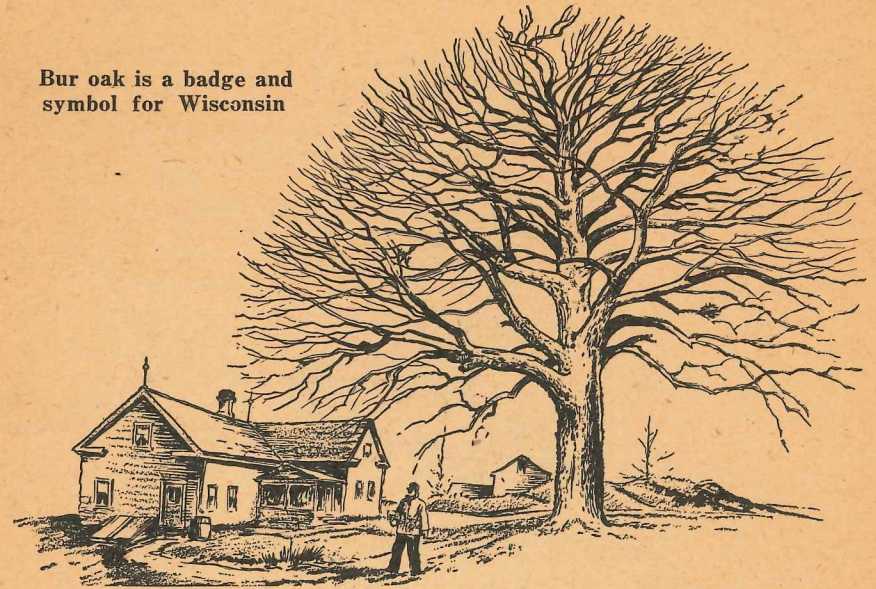
Farms which lose their pheasants in winter because they lack marsh cover may regain them in spring, especially if there are fence rows, ungrazed woods, and grassy corners suitable for nesting. Such summer ranges must depend on some neighbor within three miles furnishing the winter marsh. Returns from banded pheasants show that the birds travel at least that far to get to good winter range.

Shooting hastens the downhill movement in fall. The farmer may reduce the shooting exodus by shooting only in moderation, by keeping both dogs and guns out of the best spots of cover, and by feeding in those spots. For such "bait" feeding, patches of standing grain are best. Corn, sweet corn, buckwheat, and sunflowers are good "baits" to hold fall birds.

On range already well stocked with wild pheasants, it is doubtful if much is gained by planting more. Artificially reared birds are at first excluded from wild pheasant "society," as shown by the fact that marked plantings do not at first appear in wild flocks. They are pushed out, and if the wild birds are abundant, the artificial birds may be pushed off the farm.

Bur Oak is Badge of Wisconsin

Bur oak is a badge and symbol for Wisconsin



WHEN school children vote on a state bird, flower, or tree, they are not making a decision; they are merely ratifying history.

When the prairie grasses first gained possession of our southern counties, they thereby decided that the characteristic tree of this region would be the bur oak, for the bur oak is the only tree that can stand up to a prairie fire and live.

Bur Oaks Were Shock Troops

Have you ever wondered why that thick crust of corky bark covers the whole tree, even to the smallest twigs? This cork is armor. Bur oaks were the shock troops sent by the invading forest to storm the prairie; fire is what they had to fight. Engineers didn't discover insulation; they copied it from these old soldiers of the prairie war.

Botanists can read the story of that war for twenty thousand years. The record consists partly of pollen grains embedded in peats, partly of relic plants "interned" in the rear of the battle, and there forgotten. The record shows that the forest front at times retreated almost to Lake Superior; but the average ad-

vancement of the forest was about what it is now; and the outcome of the battle was a draw.

One reason for this was that there were allies which threw their support first to one side, then to the other. Thus rabbits and mice ate the prairie herbs in summer and girdled the oak seedlings in winter. Squirrels planted acorns in fall and ate them all the year. June beetles undermined the sod in their grub stage.

In the 1840's a new animal intervened; the settler. He didn't mean to, he just plowed enough fields to deprive the prairie of its immemorial weapon, fire. A rout followed. The oaks romped over the prairie in legions, and "overnight" what had been the prairie region became a region of woodlot farms. If you doubt this story, go count the rings on any set of stumps on any "ridge" woodlot in southwest Wisconsin. All the trees except the oldest veterans date back to the 1850's and the 1860's, and this was when fires ceased on the prairie.

Thus, he who owns a veteran bur oak owns more than a tree. He owns an historical library, and a reserved seat in the theatre of evolution.

Wild Life Likes Water

CONTRARY to popular supposition, it is not necessary for most wild-life species to drink water. We know this because many kinds live and thrive on waterless range, where they get their water from juicy insects, fruits, plants, and dewdrops.

Most kinds of wildlife will, however, drink and bathe if they are offered the chance, and prefer to live on well-watered range. The farm which includes permanent springs, streams, and ponds is therefore better wildlife range than the farm without natural water, especially during dewless drouths when there are few fruits or succulent shoots. The chicks of all upland game birds are known to drink dewdrops, and dewless periods may be very damaging to the upland game crop.

One of the best and cheapest ways to furnish water to wildlife is to plant mulberries. A surprising number of songbirds, gamebirds, and mammals eat the berries and feed them to their young.

Build Bird Bath

Deep water in stock tanks or troughs furnishes drinking water for many birds, but they cannot bathe there unless there is spillage. Wet feathers mean weak flight, hence no bird takes the risk of bathing except

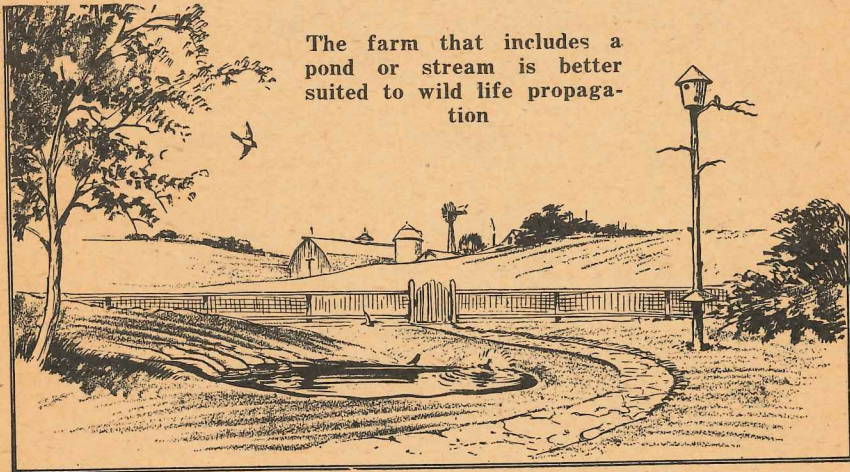
in shallow water free from cover which might hide enemies. You can have a bird "bathing beach" on your lawn by building a very shallow concrete pool and filling it every few days. Let the edges "shelve out"; do not build a steep margin.

We seldom think of freshet water on stream bottoms as an asset to wildlife, but if it stands long enough to grow a crop of aquatic animals it constitutes a rich food resource. I have seen young pheasants gorging on snails in a disappearing pond. Gulls, herons, and coons have great tadpole fishing in drying sloughs or ponds.

Many people suppose that wild things in winter eat snow, hence need no water. Yet some do. I have followed deer tracks which made a considerable detour to a snowed-over spring, which had been pawed out by the deer, evidently for drinking.

Some winter behavior in respect to water is so unexpected as to be confusing. I have seen both pheasants and quail during blizzards, wading in unfrozen springs up to their "knees". Were they "warming" their feet in the relatively warm water? Or were they hunting snails to eat? Or were they eating watercress? I am not yet sure.

The farm that includes a pond or stream is better suited to wild life propagation



Tax-Free Wood Lots Mean A Step To Conserve Nature

Wisconsin has enacted a special farm wood lot tax exemption law designed to encourage farmers to devote certain tracts of their land to conservation. As amended to remove objectionable features on fencing, the law now stands as follows:

To repeal and recreate 0.11 (40) of the statutes, RELATING TO THE EXEMPTION OF CERTAIN WOOD LOTS AND SLOPE LANDS FROM TAXATION.

The people of the state of Wisconsin, represented in senate and assembly, do enact as follows:

SECTION 1. Subsection (40) of section 70.11 of the statutes is repealed and recreated to read:

70.11 (40) Any wood lot or wood lots forming an integral, even though detached part, of a regularly operated farm, and not exceeding one-fifth of the total area of such farm, and any portion of a regularly operated farm, the slopes of which portion have a gradient of more than 30 per cent, if for one year immediately preceding May 1 of the year in which the assessment is made, the owner or operator of such farm has not permitted such wood lot or wood lots to be cultivated, mowed, grazed, or burned, and if the owner or operator of such farm has made a reasonable effort to reforest such wood lot or wood lots and, in the case of slopes, to protect and promote the growth of such grass, shrubs, or trees as will tend to prevent erosion thereon;—if such wood lots are separated from the farm of which they are a part by a fence consisting of three barbed wires on posts spaced not more than one rod apart.