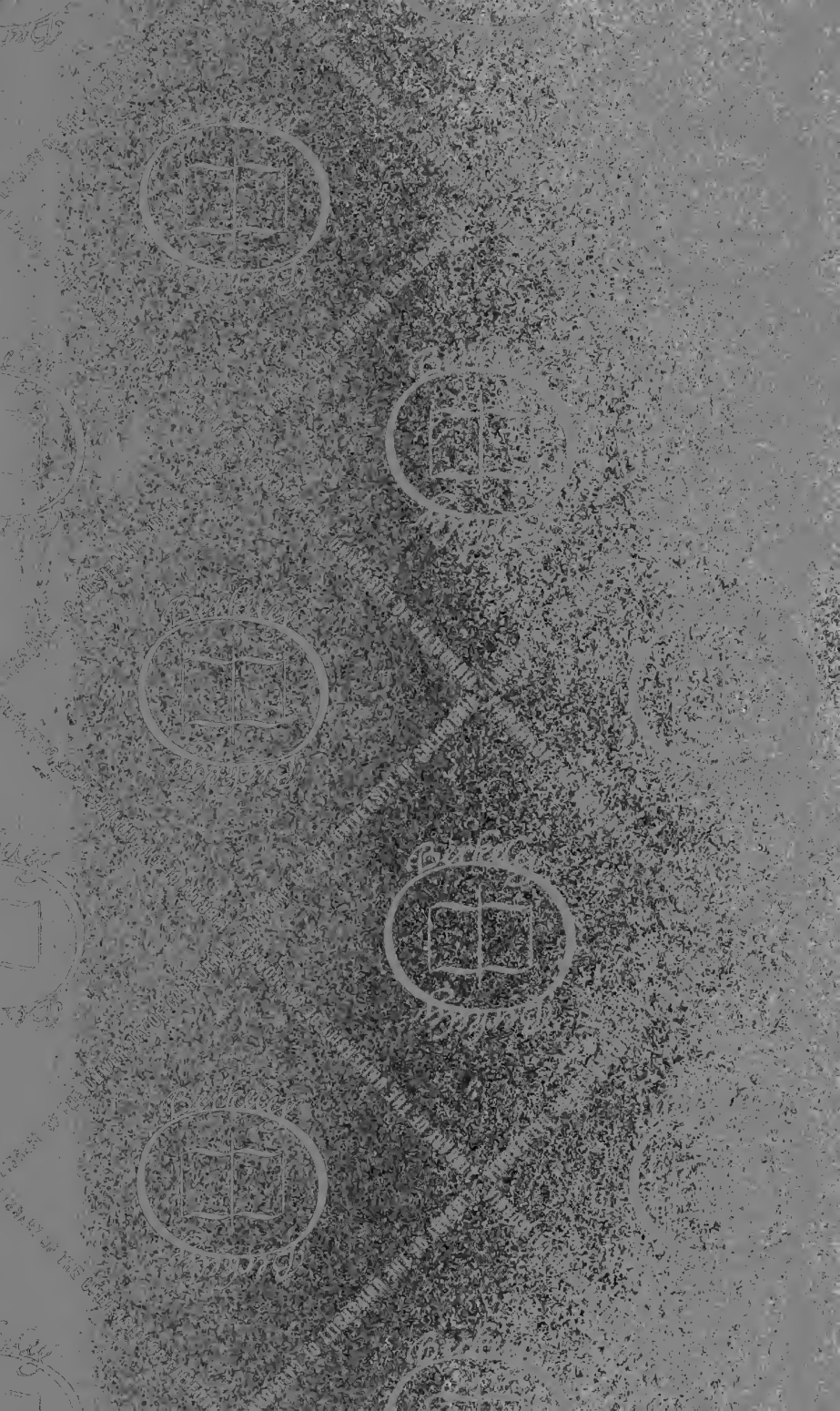


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Arbor and Bird
Day Bulletin 30

State of
Washington

Office of
Superintendent
of Public
Instruction

Mrs. Josephine Corliss Preston
Superintendent

Olympia, Wash.
April 13, 1917

The Naming of
the Birds

*The Old Bob White and the chip
bird,
The flicker and the cheewink
And little hopty skip bird
Along the river brink—
The blackbird and the snow bird,
The chicken hawk and the crane—
The glossy old black crow bird
And buzzard down the lane—
The yellow bird and the red bird
The Tom-tit and the cat
The thrush and that red-head bird—
The rest's all pickin' at
The jay-bird and the blue-bird—
The sap-suck and the wren—
The Cockadoodledoo bird
And our old settin' hen.*

—James Whitcomb Riley.

Arbor and Bird Day Bulletin 30

State of Washington
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Instruction

Mrs. Josephine Corliss Preston
Superintendent

Olympia, Wash., April 13, 1917

STATE OF WASHINGTON
EXECUTIVE DEPARTMENT
OLYMPIA

A Proclamation by the Governor:

Awakening Nature once more gives gladness to the hearts of men. The season of buds and flowers and feathered songsters is again at hand.

It has long been the custom, in the Spring of the year, to devote special attention, on at least one day, to the planting of trees and shrubbery and to the beautifying of grounds and landscapes. More recently the ruthless slaughter of song birds has brought realization that, without them the world would, indeed, be a dreary place; more than that, it has been demonstrated that the commercial loss through the depredations of insects which birds ordinarily destroy, has been very great.

The planting of trees and shrubbery and the protection and propagation of bird life, go hand-in-hand. They are activities in which old and young can participate and in which school children can render much assistance. It is most fitting that a day should be fixed for special undertakings along this line.

Now, Therefore, I, ERNEST LISTER, Governor of the State of Washington, by virtue of the authority in me vested by law, and in keeping with established custom and practice, do hereby proclaim and designate Friday, April 13th, 1917, in the State of Washington, as

ARBOR AND BIRD DAY

And I earnestly Urge and Recommend that on that day, appropriate programs be carried out in the schools of the State; that the planting of trees and shrubbery, the cleaning up and beautifying of grounds and premises, the erection of bird houses, the dissemination of information regarding the care and cultivation of trees, plants and shrubbery and the habits of birds, be given particular attention. For as the physical surroundings and environments of our citizens are beautified and made more attractive, so will the standard of citizenship be broadened and strengthened.

In Witness Whereof I have hereunto set my hand and caused the Seal of the State to be affixed at Olympia, this 19th day of March, A. D.,

[SEAL.]

1917.

Original Signed by

BY THE GOVERNOR:

Original Signed by

I. M. HOWELL,

Secretary of State.



Governor of Washington.

ARBOR DAY

Arbor Day offers an opportunity for a community program of interest to the parents and citizens as well as to the children, for the welfare of this state is dependent to a large extent upon the welfare of its forest and orchard trees.

In the timbered parts of the state, the question of forest fire prevention should be taken up at some length, with possibly a talk by a ranger or fire warden. The best methods of clearing logged-off lands and reforestation are topics sufficiently allied to be appropriate. Other subjects will suggest themselves to a teacher who is awake to local conditions.

In the fruit growing localities, a lecture by a horticultural expert, or by a plant pathologist on the insect and fungus foes of the fruit trees, would prove attractive.

In any case, the pupils should be impressed with the economic value of the state's arboreal resources, the annual export of the tree fruit products being valued at approximately \$9,000,000 and the annual cut of timber at \$43,000,000. They should be made to feel that, while timber grows for our use, its destruction by fire is nothing short of criminal. A plant disease affecting the fruit trees and vegetables should be regarded as dangerous and abhorrent as a plague affecting our human citizens. If its nature and treatment are unknown, it should be reported to the district horticulturist, to the State College at Pullman, the University of Washington, or to one of the state experiment stations.

A movement has recently been started to plant fruit and nut trees by the roadside. This might find favor in your community. It need not be started on a large scale, nor need it be expensive. After planting, the chief requisite would be a little consistent care—possibly on the part of the older pupils. The value of such a movement is shown by the fact that Belgium, as long ago as 1898, picked \$200,000 worth of fruit from trees planted along the roadsides.

The improvement of the school grounds is always of interest to the community, although the matter is in charge of the school directors and their authority should be considered. The beauty of the school environment is of great importance in developing of the aesthetic taste of pupils. If the school yard is well arranged and cared for, they will be ill-contented to return to slovenly home door yards. Some of the community eyesores may in this way be cleaned up.

As Arbor Day is also Bird Day, occasion should be taken to arouse an interest in bird study which will continue during the school year. Not only should the student appreciate the birds because

of their beauty and song, but their economic value should be understood. The very orchardists who accuse the birds of destroying the fruit crops should be their most enthusiastic protectors, for without them the trees soon would be killed by the insects they eat. Bird baths and the remains of school luncheons, if they are habitually put where the birds can get at them unmolested, will attract the "feathered citizens" close to the school windows, from which they may be studied to advantage. Bird houses are commonly made by the manual training departments, and should be designed to meet the requirements of the bird families they are to house, rather than solely as practice work in joinery.

While April 13 has been set aside for Arbor and Bird Day, let those of us who, as executives and teachers, are in charge of the public schools of the state, make it a day for renewal of interest in a work which continues throughout the year rather than a sporadic effort without permanent results.

MRS. JOSEPHINE CORLISS PRESTON,
Superintendent of Public Instruction.

THE FIRST BLUEBIRD

Jest rain and snow! And rain again!
And dribble! drip! and blow!
Then snow! and thaw! and slush! and then—
Some more rain and snow!

This morning I was 'most afeard
To *wake* up—when, I jing!
I seen the sun shine out and heerd
The first bluebird of Spring!

Mother she'd raised the winder some;
And in acrost the orchurd come,
Soft as a angel's wing,
A breezy, treesy, beesy hum,
Too sweet fer anything!

The winter's shroud was rent a-part—
The sun burst forth in glee,
And when *that bluebird* sung, my hart
Hopped out o' bed with me!

—James Whitcomb Riley.

THE BIRDS' DECLARATION OF DEPENDENCE

When in the course of their struggle for life it becomes necessary for one class of creatures to appeal to another class for succor, it is proper to set forth the dangers that threaten and the reasons for asking relief.

Therefore, we, the birds of the United States, in order to provide for our common protection, promote our general welfare and secure the blessings of safety for ourselves and our posterity, do make to the people of this state a declaration of dependence for life, liberty and happiness. This we do because you are stronger and wiser than we and because we believe that you fathers, yourselves makers of homes, will not purposely allow the nest-homes which we build to be devastated and destroyed; that you mothers, careful for your children, will gladly aid us that we may rear our young in safety; that your children, joyous companions of our sports and haunts, happy and secure in your own guarded homes, will tenderly watch over the little nestlings in ours.

With these assurances in our hearts, we inform you that certain of our number—pheasants, doves, grouse, and many others are slain not alone for food, but often cruelly, for mere sport at certain seasons appointed by your laws.

The Golden eagle, the Bald eagle, with all kinds of hawks and owls, kingfishers, shrikes, swallows, nighthawks, and numerous similar birds are wantonly killed in defiance of both your state and federal laws, simply because they are large, or curious, or erroneously accused of causing damage.

Others of our number, among them robins, vireos, waxwings, finches—your most valuable helpers—are destroyed because of their eating a few buds or a little of the fruit which, with their assistance, you produce in such abundance.

In orchard regions, woodpeckers, creepers, nuthatches, and their kindred species, who gather insects from tree trunks and branches, are slaughtered because unjustly charged with harming trees and distributing aphids, scale and blight.

The most attractively colored of our comrades—tanagers, orioles, bluebirds, buntings, goldfinches—are shot by many boys and thoughtless men for no better reason than that they furnish beautiful targets for gun and slingshot.

Although contrary to your laws, our dwelling places on the Atlantic and Pacific islands, along the shores, in the swamps and waterways, are frequently invaded by the plume hunter.

Besides all this, we suffer from death from adverse conditions unintentionally brought upon us by your fellow men. In cutting the forests and in cultivating the prairies, they have destroyed vast extents of the nesting area formerly used by us.

Countless numbers of our broods are poisoned and drowned every year in the process of orchard spraying.

The English sparrow, mistakenly introduced among us by man, is rapidly crowding out entirely from large sections many charming and valuable members of our race who love the companionship of human beings.

Great destruction to our kind results from "self-hunting" dogs that raid each rod of ground during our breeding season and devour the eggs and young of all ground nests detected by their keen sense of smell.

Most ceaseless and universal of these unintentional sources of death with which man surrounds us is the constant presence, in ever increasing numbers, of the army of domestic cats that prey upon us day and night the whole year through.

In view of the countless perils confronting us, of our helplessness before them and the pain and sorrow which we suffer because of them, we implore your help in creating a way of deliverance through better knowledge of us and of our value, more thoughtfulness for us and more sympathy with our weakness and our love of life.

In furtherance of these ends, we beg that, just as you annually celebrate your Independence day, July Fourth, we birds, also, may be given each year our national day in court, a day to be called "Birds' Dependence Day," observed in the several states, either April 4, the birthday of our good and great friend, John Burroughs, or such other day as may be designated—a day wherein our declaration of dependence may be read in schools and clubs and public meetings; slanders against us refuted; our innocence and worth established, and we be enabled to live out our natural lives among you in peace and security.—*The Birds of America, by Mrs. Granville Ross Pike.*

It's little I can tell
About the birds in books;
And yet I know them well,
By their music and their looks:

When May comes down the lane,
Her airy lovers throng
To welcome her with song,
And follow in her train:

Each minstrel weaves his part
In that wild-flowery strain,
And I know them all again
By their echo in my heart.

—Henry Van Dyke.

BIRD FOUNTAINS

(By Mrs. Granville Ross Pike)

Provision for bird welfare, to be effective, must be seasonable. During the summer, the chief need of birds is water. This is obvious from the fact that when we want to see a variety of birds, in their natural haunts, it is beside the water-courses, springs, and swamps that we find them.

Although we have been slow at the lesson, yet we are learning that birds will establish their homes near our own if we supply the needful conditions. Cover and protection we have, to some extent, provided, but have mostly overlooked this kindly ministry of water.

According to human reckoning, Washington has but recently become a "dry" state; in the bird's experience, it has always been so. Even in such well recognized centers of bird interest and enthusiasm as Seattle, Tacoma, Spokane, Olympia and Everett it is exceptional to see a bird fountain, with continuous water supply, in either private garden or public park.

Many kindly home makers, having this in mind, treasure the dream of an ideal fountain which they will some day erect in full view from their own window or veranda, to be a beautiful feature of the landscape gardening plan, and in fancy they already hear the water falling over miniature cascades, and can see the birds refreshing themselves as they frolic in the spray. Some day, our great artists will catch a vision of the relation of bird companionship to our homes.

Then we shall have bird pools, grottoes and fountains that shall minister to the need of the birds by their suitableness, and at the same time, by their beauty and symbolism, be a delight to human kind.

Some bird lovers, not waiting for such an ideal to materialize, have improvised simple substitutes and are receiving large reward. Earthen-ware or terra-cotta flower-pot saucers, frequently filled, are very acceptable to the birds. Almost any shallow, dull-colored vessel will be constantly used by them if the water be kept fresh. An upturned tile with a basin fitted to its top has been proved to be practical.

In many parts of our state, native building rock or rough stones are available for very pleasing, rustic watering places. With the ad-



dition of cement basins, about two feet in diameter, these leave little, in the way of practical serviceableness, to be desired.

More artificial, but very attractive and satisfactory, are fountains composed entirely of cement. The making of a mould for these is not difficult, and those who prefer to make their own will find it quite possible to fashion one at home.

Whether making or buying, certain fundamental principles must be recognized. The basin should vary in depth from one to about two and one-half inches, in order naturally to serve the different sizes of its frequenters.

Moving water is much more attractive to birds than still, be it ever so fresh and abundant. Unless absolute protection from cats is provided otherwise, all drinking and bathing places should be elevated. Shrubbery furnishes a proper setting.

Clearly, then, no home is so lowly that it cannot express its appreciation and enjoyment of the birds in some tangible form.

"Home's not merely four square walls,
Though with pictures hung and gilded;
Home is where affection calls,
Filled with shrines the heart hath builded."

Opportunity for drink and refreshment given thirsty, helpless creatures is a heart-built shrine that sanctifies the humblest home.

The real Spirit of the Bird Fountain finds voice in these words, uttered by a little child as part of a recent dedication: "This fountain is placed here as an invitation to the birds to come and live with us, to sing to us, to make their nests in our trees, to play on our lawns, and to drink from the cooling water of this fountain."—*Homes and Gardens*.



The woods were made for hunters of dreams,
The streams for fishers of song;
To those who hunt thus, go gunless for game,
The woods and the streams belong.

—Selected.

THE VALUE OF BIRDS TO THE FARMER.**(Extracts from U. S. Government Bulletin)**

"A reasonable way of viewing the relation of birds to the farmer is to consider birds as servants, employed to destroy weeds and insects. In return for this service they should be protected, and such as need it should receive a fair equivalent in the shape of fruit and small grain. Nothing can be more certain than that, except in a few cases, any farmer who is willing to pay the toll collected by birds for actual services rendered will be vastly benefited. In the long run, no part of the capital invested in farm or orchard is more certain to pay a big interest than the small sum required for the care and protection of birds.

"Birds are Nature's check upon insect life. By controlling the increase of certain insects they prevent the destruction of plant life, and without plant life, animal life—including that of man—would be impossible upon the earth. Each species of birds has its special office. One cares for the leaves and twigs of the trees, another guards the trunk and limbs from attack; still others hunt upon the ground, seeking their prey beneath the fallen leaves and loose soil.

"It has been estimated that the coddling moth spoils from 25 to 75 per cent. of the apple crop in the United States and Canada each year. The annual loss in the United States due to this pest, including the cost of efforts to control its ravages, is \$15,000,000. From investigation in the Blue Ridge apple region of Virginia it was found that 25 species of native birds ate this insect. It is believed that birds destroy from 50 to 85 per cent. of the hibernating pupae.

"A pair of nestling Wrens took more than 600 insects from a garden in one day; a young Robin ate in one day 165 cutworms, or one and five-sixths times its own weight; another Robin ate from 50 to 75 cutworms a day for fifteen days; a Yellow-throat was seen to eat 89 plant lice on birches in one minute. Continuing to feed at this rate for forty minutes, over 7,000 plant lice must have been eaten in this time.

"A pair of nestling Bush-tits made 43 trips an hour to their young. As there were undoubtedly several insects carried each trip, and as the bird's day is at least fifteen hours, they must have fed at least 2,000 insects daily. The stomach of one "Bob White" quail has been found to contain more than 100 potato beetles. Another had eaten 500 cinch bugs. Ninety of the destructive cotton-boll weevils were found in the stomachs of three Meadowlarks. A single Robin had eaten 175 caterpillars. A Chickadee has been known to eat 5,000 eggs of the canker worm in one day. A Swallow will destroy more than 1,000 flies and other winged insects every 24 hours. A pair of nestling Orioles will destroy thousands of the small green caterpillars that are so destructive to the foliage of the deciduous fruit trees some years in California.

"Fifty per cent. of the food of the Red-shafted Flicker consists of ants, 3,000 of these having been taken from the crop of a single bird. The Valley Quail when induced to visit the grounds infested by the Fuller's rose beetle, will soon exterminate that destructive intruder. In the crop of one Mourning Dove there were found more than 7,000 seeds of harmful weeds, another had eaten 9,000 such seeds.

"Bird authorities of Massachusetts estimate one day's work by the birds in that state to be the destruction of 21,000 bushels of insects. In Nebraska 170 carloads of insects are destroyed by the birds every day."

The Washington climate and foliage are ideal for the propagation of thousands of different kinds of destructive pests. Many a farmer has found his crops damaged greatly by insects and worms. Is it not as necessary for efficiency in farming to welcome the birds and to induce them to nest on and near farms as it is to cultivate the soil scientifically?

THE HEART OF THE WOODS

I like the leafy-murmuring solemn hush
Of woods that wall me round with underbrush.
Their intricate tapestry of twinkling green,
Glinted with sunlight, the grey trunks between,
And the thin-woven carpet, chequered brown,
Dead leaves from many an Autumn matted down;
Remote from all things, sun and wind and sky,
Far, far above my head the tree-tops sigh,
And like the echo of a distant land,
I hear the great lake wash upon its strand.
So maiden calm, so silent, serious,
'Tis some one's heart, in mood mysterious,
The depths profoundest of an untouched heart
From pain and passion very far apart,
Untraveled and unknown, a land enchanted,
Wild, labyrinthine, dim, and fancy-haunted.

—*Florence Wilkinson.*

Then plant for me, and dig and delve—
Adorn some spot of earth—
Let some new charm in this old world
Trace back to thee its birth,
That when thy brow is bending low,
And faltering is thy tread,
Some unknown traveler will breathe
Choice blessings on thy head.

—*Beecher W. Waltermire.*

A VISIT WITH THE BOHEMIAN WAXWINGS**(By Adelaide L. Pollock)**

The first week of 1917, residents of our various suburbs began telephoning to newspapers inquiries about the vast numbers of strange birds to be seen in their localities, and many strange theories arose as to their visitation. From Mt. Baker Park to Lincoln Beach, from the University of Washington to Queen Anne Hill the birds were seen by hundreds feeding on madrona berries and those of the mountain ash. Where they came from and where they will go, who can tell? They lit on the dead fir trees on Mr. Charles Black's yard and the whole character of the tree changed from decrepit winter to autumnal splendor.

A pair of binoculars brought near the soft brownish gray bodies of the Bohemian Waxwings with the dainty crest outlined below with black and the pretty white and sulphur yellow blotches on wings and yellow tail band. With them were many Western Robins. In the city the birds kept well up in the bare tree tops, but not so on the boulevards or at the University.

Sunday, January 21, will be a day long to be remembered by the author. A friend had telephoned that large flocks of birds were near the pumping station and two enthusiastic women hurried across the city. From the bridge where the road winds down to the lakeshore just above the pumping station on Lake Washington we caught our first glimpse of the flock. Several ancient monarchs of the primeval forest rear their heads here above the surrounding trees and this day they wore a strange garment of feathers. Birds were so thick upon the limbs that you could not see the foliage. I counted on the topmost branches of one tree 132 birds, on another 115, and on a third 84; and this count was only a beginning.

A noise startled the birds and with a roar of wings they circled around and dropped down the hillside. We followed into a little woodland where the branches of the trees appeared to quiver with their heavy burden. The deep wagon track of an old road served as a bird bar and dozens of the Bohemian Waxwings and Western Robins fluttered up and down in and out, crowding into edges, daintily showing that to them Seattle was not a dry town. Their saucy crests had a knowing air as they courteously yielded one to another. An occasional robin showed so much white on its tail that it proved it must be an American Robin of the far East which had strayed out of its range along with the erratic Bohemian Waxwings.

Both Bohemian Waxwings and Western Robins were there by the hundreds, possibly thousands, and the air thrilled with the harmony of their song. It was noticeable that they were clannish. A tree usually held only one kind of bird, although the next would be covered by the other. None of the birds were timid. We felt as if we could almost touch them. They fascinated us so that we paid little attention

to the Oregon Towhees, the Chickadees, the American Coots, or the gulls, although we could not refuse to listen to the wonderful spring song of our beloved Rusty Song Sparrow.—*Puget Sound Homes and Gardens, for February.*

THE ORNIRY, A REFUGE FOR WILD BIRDS.

(By Mrs. Granville Ross Pike)

Bird students familiar with the facts, are distressed and alarmed by the knowledge that all our beautiful and valuable American wild life is rapidly vanishing. The greater part of their effort at present is to arouse the public mind to a realization of this crisis.

The most hopeful remedy suggested by practical observers of the situation, is multiplication of game farms and game refuges on state and private grounds. In these havens all species not already depleted beyond the possibility of rescue will tend to increase and recover their normal population. Song and insectivorous varieties profit by such provision for safety, even when made primarily for game birds, and thus all avian life receives a new lease.

Experiments in this direction have long been successfully carried on in various parts of the country. One of the largest and most effective of these is Blue Mountain Forest Park, with which we have become familiar through the association with it for many years of Mr. Earnest Howard Baynes. Another notable example is the farm maintained by Mr. Henry Ford, near Detroit, Michigan. Here, protection and propagation of birds are carried on scientifically with most encouraging results.

If, then, it is through such methods that our precious wild life is to be conserved, let us all share in the good work. We may not be able to set aside from our landed estates twenty-seven thousand acres, as in the Blue Mountain project; nor even twenty-one hundred acres, as in the Ford farm, but almost every friend of the birds can control some little spot in farm, garden, lawn, door-yard, or playground.

This article is prompted by the desire to persuade every such person to make a little sanctuary of every such place, even though it can be no more than a single shrub or bush, in which some hunted feathered friend may rest a little in safety from its enemies. The multiplication of these tiny shelters, linked together by their numbers from home to home, from village to village, will form, in their aggregate, vast oases in the wide desert of hostile conditions through which every bird must now pass to live. In this way it is possible to replace in part the great areas of prairie, swamp and woodland, natural nurseries of bird life, which man by cultivation wrests from their feathered occupants every year.

Shall not we, then, on the coming Arbor and Bird Day, prepare whatever space, large or small, we may, in private ground, school-yard, or public park, and consecrate it, with communal ceremony or personal dedication, as opportunity offers, to the double purpose of conserving the life of the birds and of preserving their friendship and service to man. Governor Lister, in strong and earnest phrase, has set apart that day with this object. Will not every citizen, child or adult, of our state respond heartily, and, in keeping with the occasion, do full duty toward protecting the dependent birds?

The ancient Greeks were nature lovers. Every shrine of their gods was a sanctuary for wild life. Many birds were sacred to one or another of their divinities. Since we have borrowed their word, *ornia*, as the term whereby we designate the science of bird life, what more fitting than to use another coinage from the same root to describe the practice of making bird homes, and call each little refuge an *orniry*?

So far as you can, give your *orniry* proper balance of vine and shrub, of briar and tangle. Your pleasure in watching the birds that it shelters will amply repay. If space permits, do not fail to set out mulberry, choke cherry, and mountain ash trees. Add such berry bearing shrubs as elder, dogwood, sumach, currant and honeysuckle. A few barberry bushes around the outer edge, as a hedge, give the timid creatures an additional sense of security. Create a tangle of blackberry, raspberry, wild grape, woodbine, and other sheltering vines. Wherever possible, supply abundance of such seed bearing plants as sunflower—particularly dear to finches and chickadees, chickory, lettuce, hemp and millet. Do not forget to delight the hummers with *salvia* and scarlet runner beans.

Water, too. Furnish the birds with water, if you can do nothing more. Could you manage some sort of fountain effect, such as a hydrant dripping into a basin on an upturned tile, or a spray falling into a little pool built of rugged stones from the pasture? Perhaps nothing more is possible to some than a plain dish of fresh water on a friendly stump. The birds will not disdain it. Any one of these would be to our winged visitors a favorite feature in your *orniry*. Possibly you could also manage to erect a bird house or two on poles or trees and thus publish to the whole world, bird and human alike, the spirit and purpose underlying it all.

He who plants a tree, plants Hope.
He who plants a tree, plants Joy.
He who plants a tree, plants Peace.
He who plants a tree, plants Love.

—*Selected.*

BIRD DAY IN THE SEATTLE SCHOOLS**(By Robert C. Wright)**

Bird houses appeared hung from the poles along Second Avenue, and the business man at his desk was startled with the chirping of wild birds of all kinds Saturday, March 31.

That day was Bird Day in Seattle. It was made so by the pupils in the public schools, who have made the feathered citizens subject of special study this year, and who have made elaborate plans for bettering their condition.

An exhibit of approximately 2,000 bird houses, made by the manual training department of the schools was held in the Press Club Theatre from 2 until 9 o'clock, March 31, and the bird houses along Second Avenue were hung to call the attention of the passerby to the exhibition. The bird calls which were heard through the business section of the city were not voiced by thrushes and robins themselves, but by schoolboys, who toured the downtown streets in trucks loaned for the purpose by automobile companies, and who imitated their friends, the birds.

The special study of the birds was begun early this year under the direction of a committee appointed by Superintendent Frank B. Cooper, and chairman of which is Miss Adelaide Pollock, principal of the Queen Anne elementary school and one of the foremost authorities on bird life in Seattle. The calls of the birds were studied in connection with the study of music, drawings of the birds and their homes were made in the art classes, special trips were made by the pupils to the University of Washington museum, where specimens of bird life are mounted in their natural surroundings, and the study was correlated with language study in compositions about the birds and their life.

The building of bird houses has been under the direction of Ben Johnson, director of manual training, who is chairman of the committee in charge of the exhibit at the Press Club. Drinking fountains for the birds, and receptacles for food have been made by the pupils in addition to bird houses.

The interest in the work is shown by the enthusiasm with which public institutions of all kinds are co-operating in the staging of the exhibit. The park board furnished foliage and ferns, so that the bird houses were shown in their proper setting, and those who purchased the bird homes from the pupils were shown how to place them to attract the wild tenants. The public library also had a booth, in which were books relating to bird life, and the municipal lighting department assisted in hanging the bird houses along Second Avenue to attract attention to the display.

As the department has made a strict rule against hanging anything from the light poles, the Puget Sound Traction, Light & Power Company came to the rescue with authorization to hang the bird houses from the power poles.

"The pupils are taught that the appreciation of birds is not a mere sentimental affair," says Director Johnson. "They are told of instances, quoted from government reports, in which crops were destroyed by mice because the owls were exterminated, and are given problems to figure out regarding the value of a bird which catches a thousand flies an hour, when a man, paid 20 cents an hour, can kill but 300 in that time."

Several of the schools entered the building of bird houses on a business basis. The Green Lake school baseball team recently appeared on the diamond with spick and span new uniforms purchased with money obtained through the sale of bird houses made by the pupils. The Summit school sold bird houses on the street the day of the exhibit, and has obtained no little business training from obtaining the permits from the city to sell articles on the street, from preparing their advertising and from planning their selling campaign.

THE TREE

I love thee when thy swelling buds appear,
And one by one their tender leaves unfold,
As if they knew that warmer suns were near,
Nor longer sought to hide from Winter's cold;
And when with darker growth thy leaves are seen
To veil from view the early Robin's nest,
I love to lie beneath thy waving screen,
With limbs by Summer's heat and toil oppressed;

And when the Autumn winds have stripped thee bare,
And round thee lies the smooth, untrodden snow,
When naught is thine that made thee once so fair,
I love to watch thy shadowy form below,
And through thy leafless arms to look above
On stars that brighter beam when most we need their care.

—Jones Very.

Love, now an universal birth,
From heart to heart is stealing,
From earth to man, from man to earth,
It is the hour of feeling.

One moment now may give us more
Than fifty years of reason;
Our minds shall drink at every pore
The spirit of the season.

—Wordsworth.

SUGGESTIONS FOR BIRDS' DEPENDENCE DAY PROGRAM**(By Mrs. Granville Ross Pike)**

1. Music.

2. Address. "Birds' Declaration of Dependence."

(A brief summary of dangers and difficulties of bird life in your vicinity.)

3. Recitations or Quotations on same topic—Pupils.

4. Bird play or pageant, illustrating Bird Dependence.

5. Address, "Some things our school has done for birds."

(Discuss whatever has actually been accomplished in these or other ways.)

a. Maintained (how many) winter feeding stations at homes, school grounds and other places.

b. Provided (how many) bird houses in school yard and other localities.

c. Planted orniries and made fountains on school and home lawns.

6. Exhibit of collected materials relating to birds. (Bird albums, scrap books, feathers, nests, food seeds, books, etc.) All pupils participating.

7. Music, Bird Records—Victrola.

8. Talk, "Nests and Nesting Materials" (Illustrated by examples)—Girl.

9. Talk, "Correct Houses for Birds," (Illustrated by examples)—Boy.

10. Address, "Some Things Still to be Done for Bird Welfare."

a. Maintain active Junior Audubon Clubs.

b. Protect birds from cats and other enemies.

c. Enforce laws for bird protection.

d. Publish bird news in local papers.

11. Music.

Birds' Dependence Day Program**(Outdoor Exercises)**

1. Music, and Folk Dances.

2. Making an Orniry. (Planting of seeds or setting of plants, shrubs, vines or trees which bear food or attract birds.) Teacher conduct symposium on subject if circumstances prevent actual planting.

3. Service of Dedication for the Orniry. (Children impersonate rain, breeze, sunshine, cloud, etc., or all join hands dancing about and wassailing the orniry with water.)

4. Unveiling of Bird Fountain.

Any suitable ceremony with such features as, brief address by city official, or representative of a local club; music, folk dances, unveiling by pupils, etc. (If a formal fountain is impossible a simple watering place will answer.)

5. Words of Dedication. Pupils encircling fountain repeat,—

"This fountain is placed here as an invitation to the birds to come and live with us, to make their nests in our trees, to play on our lawns, and to drink from the cooling water of this fountain."

6. The Birds' Prayer. Group of children as birds recite,—

"In view of the countless perils confronting us, of our helplessness before them and the pain and sorrow which we suffer because of them, we implore your help in creating a way of deliverance through better knowledge of us and of our value, more thoughtfulness for us and more sympathy with our weakness and our love of life."

7. Dependence Day Pledge—School.

"I will not hunt or kill any living creature needlessly, nor destroy any beautiful thing, but will strive to save and comfort all gentle life and guard and protect all natural beauty on earth."

8. Song, "America"—School.

Material for Bird Programs.

Subjects for Bird Compositions and Discussions:

"Some Birds I Know."	"Bird Gardens or Orneries."
"The American Eagle."	"A Model Bird House."
"Tenants of the Trees."	"Bird Boarders in Winter."
"My Favorite Bird."	"How to Assist Birds at Nesting Time."
"Helpful Bird Books."	
"Bird Fountains."	

Selections Appropriate for Reading:

Birds of Killingsworth.....	Longfellow
To a Waterfowl.....	Bryant
The Bobolinks*.....	C. P. Cranch
My Garden Acquaintance (Selections).....	J. R. Lowell
The Bobolink.....	Thos. Hill
Spring in Carolina*.....	Henry Timrod
Flight of Wild Geese.....	W. E. Channing
In April.....	Helen H. Jackson
Nest Eggs.....	R. L. Stevenson
To a Swallow.....	Jane W. Carlyle
The Crow.....	John Burroughs

Selections Appropriate for Recitations:

The Bluebird*.....	Alex. Wilson
The Winged Worshippers*.....	Chas. Sprague
My Catbird*.....	W. H. Venable
The Sandpiper*.....	Celia Thaxter
An Early Bluebird*.....	Maurice Thompson
The Veery*.....	Henry Van Dyke
The Mocking Bird*.....	Frank Stanton
The Scarlet Tanager*.....	Mary A. Mason
Robin's Secret*.....	Katharine L. Bates
The Meadow Lark*.....	Hamlin Garland
The O'Lincoln Family.....	Wilson Flagg
Robert of Lincoln.....	Bryant
Little Blue Pigeon.....	Eugene Field
Oh! To Be a Robin.....	Isabel Mackay

All those selections marked by asterisks can be found in Stedman's "An American Anthology."

Bird Day Bibliography

There is much valuable material in the "Humane Education Leaflet" No. 2. Birds. Published at office of American Humane Society, Longwood Avenue, Boston, Mass. Price of the leaflets, postpaid, twelve for five cents, or thirty cents per hundred.

Directly on the subject of Bird Day celebration, is Charles A. Babcock's "Bird Day." How to prepare for it. Price \$1.00.

Another excellent help, is Alice E. Ball's "A Year With The Birds." A book in verse adapted to the celebration of Bird Day. 56 colored plates. Price \$3.00.

These books may be ordered through the National Audubon Society, 1974 Broadway, New York.

CHART OF DIMENSIONS FOR BIRD HOUSES

(Arranged by C. B. Gwynn, instructor of manual training in the Olympia High school)

(Note—Dimensions given below in inches)

KIND	Floor of Cavity	Depth of Cavity	Entrance Above Floor	Diameter of Entrance
Bluebird	5 x 5	8	6	1½
Robin	6 x 8	8	1	1
Chickadee	4 x 4	8 to 10	8	1½
Nuthatch	4 x 4	8 to 10	8	1½
Wren	4 x 4	6 to 8	1 to 6	1
Swallow	5 x 5	6	1 to 6	1½
Phoebe	6 x 6	6
Finch	6 x 6	6	4	2
Song Swallow	6 x 6	6	2	2
Flicker	7 x 7	16 to 18	16	2½
Woodpecker	8 x 8	12 to 15	12	3

TREES IN WASHINGTON; TRANSPLANTING OF TREES; CARE AND CULTIVATION

(From a bulletin compiled by W. S. Thornber, horticulturist, and issued by the State Agricultural Experiment Station at Pullman, Wash.)

During the past fifteen years the State Experiment Station has tested a large number of shade, forest and ornamental trees on the college campus and in the state forest plats. As a result of these investigations much valuable information relative to the behavior of these trees has been compiled. These results entirely disprove the theories and advice of many early settlers who feel that it is useless to plant trees, as they will die anyway, or if you do plant, there is nothing better to plant than the Lombardy Poplar or Box Elder. The Lombardy Poplar and Box Elder, as the early missionaries of introduced tree life, have served their purpose well and now should give way to the more permanent and valuable trees. More than one hundred trees have proven themselves valuable for our conditions here in this state.

The transplanting of trees is always accompanied by greater or less danger of loss, or, at least, backset. This is caused by the loss of feeding roots, the drying of the bark of the roots thus making

activity impossible, or failure on the part of the planter to make the soil firm around the roots and thereby preventing wind injury to the newly formed rootlets.

Immediately upon receiving the trees from the nursery, if they are moist and in good condition, heel in moist soil. If the roots are dry and the tops shriveled, bury top, roots and all in moist soil for a few days before planting. This will frequently save trees which ordinary treatment would not. When ready to plant dig the holes large enough to accommodate the roots without cramping and deep enough so that when the tree is transplanted it will stand from one to two inches deeper than it stood in the nursery. Prune off all injured or bruised parts of the roots in such a manner that the cut ends will rest upon the bottom of the hole or at least will face downward. Place the tree in the hole in such a way that it will rest firmly on the bottom; now fill in with moist, rich soil until the hole is from one-third to one-half full, or at least until the roots are thoroughly covered; shake the tree slightly to work the soil among the roots, and then get into the hole with both feet and tramp the soil until it is firm. Now fill the hole and leave the surface loose and smooth, but never cloddy and covered with chunks of sod.

If water is to be used, it is best to dig the holes from one to two days before planting and put from two to three gallons of water in each hole, permitting to entirely soak away before planting, but never apply it to the surface of the ground around the trees after they are transplanted, as it will do more harm than good. Evergreens must never be permitted to dry, as they have resinous sap which hardens when it dries out or comes in contact with the air, immediately killing the tree.

Evergreen trees can be transplanted almost any month in the year, but the best results at the Station have been secured by transplanting in the Spring just as the buds are beginning to expand, which is usually from the tenth of April to the first of May, or immediately after the Spring growth has hardened, which is from the middle to the last of July. Trees transplanted during these seasons of the year have given universally good results. Deciduous trees must be transplanted during the Fall after their wood has thoroughly ripened or very early in the Spring. Late Spring planting in Eastern Washington is not at all satisfactory on account of the long, dry summer, and should always be discouraged.

Nothing can take the place of clean culture for trees. Surface watering is worse than no water, and grass and leaves will permanently injure, if not kill, newly transplanted trees. If cultivation with horse tools is possible this is the best and most economical way to care for them. If this is not possible, then hand raking and hoeing is the next best thing. If the trees stand alone or on the lawn or park that is frequently watered, it is best to keep the grass from growing closer than five or six feet.

The Norway and Sycamore Maples are especially commended for general shade planting on account of their hardiness, rapid growth,

ability to stand drought, good shade producing habits and general freedom from plant pests. The Black Locust, Carolina Poplar, and Silver Poplar are extremely valuable for very quick shade, wind breaks, and should be used in all collections. The low prices at which these trees can be obtained is another point in their favor. The English Maple, Flowering Ash, English Oak, and European Linden have all produced such strikingly attractive trees that every one who sees them admires them. These trees while not so rapid of growth make dense shade and are of great value for places where medium sized, attractive trees are desired.

The Cut Leaved Weeping Birch, Hardy Catalpa, Golden Willow, and Colorado Blue Spruce are all so hardy and universally admired that no large lawn or park should be planted without one or more of these being included. The large wood producing ability of the European Larch, White Willow, Cottonwood, and Black Locust makes these trees very profitable to grow for posts and fuel.

SUGGESTIONS FOR SPECIAL PURPOSES

Large, rapid growing trees for street and shade: Black Locust, Carolina Poplar, Silver Poplar, Cottonwood and Oregon Maple. (Oregon Maple for west of the Cascades only.)

Large, medium growing trees for street and shade: Sycamore Maple, Norway Maple, Silver Maple, Scotch Elm, English Oak, English Maple, Flowering Ash, Green Ash, Hackberry, Box Elder, Black Walnut, Scarlet Oak, European Linden, and Horse Chestnut.

Deciduous trees for lawn or park planting: Cut-Leaved Weeping Birch, European Linden, Flowering Ash, Wein's Cut-Leaved Maple, Japanese Chestnut, American Hornbeam, English Oak, Scarlet Oak, Red Maple, American Mountain Ash, White Birch, European Mountain Ash, and Bolles Poplar, and Lombardy Poplar, Golden Willow, European Larch, Native Thorn and Hardy Catalpa.

Evergreen trees for lawn or park planting: Colorado Blue Spruce, Norway Spruce, Engelman's Spruce, Black Hills Spruce, Douglas Fir, White Fir, Irish Juniper, Austrian Pine, Scotch Pine, Dwarf Mountain Pine, and Giant Cedar.

Best trees for single row wind-breaks or tall screens: Lombardy Poplar, White Willow, Apple, Douglas Fir, Austrian Pine, Scotch Pine, Box Elder, Norway Spruce, and Giant Cedar.

Best trees for single row wind-breaks or low screens: English Maple, Golden Willow, American Hornbeam, Engelman's Spruce, and White Spruce.

Best trees to plant for fuel purposes: European Larch, Black Locust, Austrian Pine, White Willow, Cottonwood, and White Maple.

Best trees to plant on dry soil or in windy, exposed situations: Black Locust, Box Elder, Russian Wild Olive, Green Ash, English Maple, Black Hills Spruce, Scotch Pine, Austrian Pine, and Engelman's Spruce.

FOREST FIRES AND FIRE PREVENTION IN 1916

(From the annual report of State Forester F. E. Pape)

The thoughts and views expressed, in writing and preparing this report, are mainly from knowledge gained from thirty-five years of observation and experience in the woods and forest industries of Western Washington, and are based on practical, rather than scientific studies of the subjects.

My appointment as Forester was made on April 15th last, at the very beginning of the fire season. I have been so thoroughly occupied with the conduct of the field work, that little time has been found to study literature on forestry and forest subjects, further than gained through current news and magazine articles. However, it will be my endeavor to acquire knowledge in all lines of forestry, and my earnest effort to advance its interests wherever found practical.

It is quite clear to me that the primary object of the forest protection law is the prevention and suppression of forest fires, particularly in the forests of state, school and other granted lands—of which there are approximately 875,000 acres—also in a general way to co-operate with other forest protective agencies in controlling fires, preventing destruction of property, and patrolling the forested areas of the state. Such has been the principal activity of this department.

The forest fire season opened in the northern counties the last week of May, requiring the attention of some of the field force. No loss of consequence resulted, but much good was accomplished in disposing of some large areas of loggers' slashing. About two weeks later, following several warm, dry days, numerous fires occurred throughout Western Washington, mostly in logging works, resulting in some quite serious losses to logging operators. Only two of these fires caused noteworthy loss of standing timber, one in Pacific county killing 2,000,000 feet and destroying 1,000,000 feet, board measure, of standing timber, and the other on the Hoh river, in western Jefferson county, destroying about 4,000,000 feet of large, mature spruce timber on state land.

From June 21st to August 22d no fires of importance occurred. The weather continuing cool, with frequent light rains, kept the forests damp. Another dry period in the latter part of August developed some fires. All were kept under control with no loss to standing timber. The most serious fires during this period were in Spokane, King, Lewis, Grays Harbor and Snohomish counties; losses were principally confined to logging operations.

The next fire of note occurred in Skamania county, September 14, destroying camp property, logs and timber of the J. K. Lumber Company, and burning over about 700 acres of second growth timber.

The most destructive fire of the year, in fact, among the few serious fires in the history of Washington, occurred in Clallam county, September 20th. It originated in the works of the Puget Sound Mills and Timber Company, caused by sparks from a railway locomotive engaged in hauling logs. It burned moderately until September 27th,

when a brisk wind rapidly spread the fire over nearly their entire works, and drove it into adjoining standing timber, imperiling lives of workmen and destroying one entire camp, including buildings, stores and equipment of all kinds, besides damaging or destroying bridges, railway track, cars, logging donkeys, cables, tools, and many million feet of sawlogs in the woods, also damaging or destroying hundreds of acres of green timber. The fire burned over some 7,000 acres, about 3,200 of which was green standing timber largely owned by the company, but which is intermingled with some state and federal forest lands. This was a ground fire, and the area of state timber burned is about 400 acres, the loss and damage to which is now being carefully estimated and determined.

It became necessary to establish fire fighting camps west of Piedmont, on Boundary creek. Several miles of fire guard were constructed, thus finally heading off the fire and preventing its further spread into valuable state and federal timber. The state and federal forest service co-operated in this work.

This fire, in particular, with all its attendant circumstances, emphasizes most forcibly the growing necessity for some well-formed plan for the annual burning of forest waste, in seasonable time and with well-planned protective preparations. Loggers and lumbermen should learn to figure the cost of annual disposal of logging waste as a fixed operating charge of primary importance. When this is done by all forest operators such losses as described above will be reduced to a minimum. Had this company made a few well-planned preparations, then fired their entire works in favorable weather, the loss could be shown in four figures instead of six.

Our attention was directed by the federal service to numerous fires originating adjacent to and on the Northern Pacific railway's mountain division. A letter was addressed to this company calling attention to the law on locomotive screens and ash pans, and if their locomotives caused fires to patrol that section of their road.

This department has been active in the enforcement of law relative to clearing of rights of way and the disposal of fire risks. The field forces have rendered assistance to public authorities as well as private parties, and we have been ably assisted by both the Washington Forest Fire Association and the Federal Forest Service in furtherance of this work.

In accord with your resolution of August 7th, in relation to disposal of inflammable debris adjacent to public highways, circular letters were sent to the wardens, with form of notice to be served on land owners. Reports from them indicate that such notice was served wherever fire risks were discovered and owners could be found. This activity resulted in the disposal of many hazardous accumulations of forest waste.

During the summer months, in company with other forest officers, I made a tour of many highways, inspecting faulty clearing and effecting disposal of it. In a few cases arrangements were made to

appoint a suitable man to supervise the clearing at the contractor's expense.

About September 10th and following some light showers which made burning quite safe, another circular letter was forwarded to the field force, instructing them to urge all public authorities, private persons and contractors to clear up forest waste accumulated from clearing of right of way. Also, that whenever was found any hazardous forest waste that in their opinion could be disposed of with reasonable safety they should urge the owner, tenant, logger, contractor or public authorities, as the case might be, to burn or otherwise dispose of it, and when not otherwise engaged to assist them in so doing. Much good was accomplished by these efforts; thousands of acres of forest waste was burned with slight loss to adjacent timber or other property.

The state highway commissioner and many boards of county commissioners and engineers heartily co-operated with us in the enforcement of the law. However, authorities in some counties are neglectful and indifferent, permitting contractors or supervisors to leave unburned on the highways great piles of debris that, when thoroughly dry, create very dangerous risks to adjacent timber or other property.

It has been the practice of some contractors to log up great piles of timber and rubbish along roadsides, often piled up against valuable standing timber in such manner as that it is impossible to burn without destroying the trees, and with great risk of starting crown fires. There are instances where contractors have had permission to pile waste and fell trees on private property adjoining right of way. This should not be permitted, for the hazard is as great off the right of way as on, unless removed to a point where it cannot communicate with other property when fired. There are numerous instances throughout the state where expensive and destructive fires have originated from waste materials from road clearing.

The co-operative work in the field was most agreeable and satisfactory from every standpoint. The state and federal service, assisted by settlers, co-operated and divided the cost of suppressing forest fire in western Jefferson county, where state, federal and private lands intermingled. And again in Clallam county, assisted by the Washington Forest Fire Association, they co-operated in holding in check two of the worst fires of the season.

O to be lost in the wind and the sun,
To be one with the grass and the stream
With never a care while the waters run,
With never a thought in my dream;
To be part of the Robin's lilting call,
And part of the Bobolink's chime,
Lying close to the shy Thrush singing alone,
And lapped in the thicket's rhyme!

—*Hamlin Garland.*

SUGGESTED PROGRAM FOR ARBOR DAY

- 1 Song
- 2 Reading: The Significance of Arbor Day
- 3 Recitation: Foreign LandsStevenson
or
The First Bluebird.....James Whitcomb Riley
- 4 Essay: Some typical trees of our locality
- 5 Song
- 6 Reading: Trees in Washington
- 7 Reading: The Friendly Trees.....Van Dyke
- 8 Essay: Some practical suggestions as to the transplanting of
trees for school grounds
- 9 Song
- 10 Quotations, or selected readings
- 11 Recitation: The Heart of the Woods.....Florence Wilkinson
- 12 Song
- 13 Planting of tree in school grounds or park

O for a seat in some poetic nook,
Just hid with trees and sparkling with a brook!
—*Leigh Hunt.*

A MINSTREL OF THE MARCHES

On a bulrush stalk a blackbird swung
All in the sun and the sunshine weather,
Teetered and scolded there as he hung
O'er the maze of the swamp woof's tangled tether;
A black bass leaped for a dragon-fly
And struck the spray from the sleeping water,
While airily, eerily there on high
Sang the blackbird perched from his teeter-totter.
—*Anonymous.*

SPRING SONG

A bluebell springs upon the ledge,
A lark sits singing in the hedge;
Sweet perfumes scent the balmy air,
And life is brimming everywhere.
What lark and breeze and bluebird sing,
Is Spring! Spring! Spring!
No more the air is sharp and cold;
The planter wends across the wold,
And glad, beneath the shining sky
We wander forth, you and I.
And even in our hearts doth ring
This song of Spring! Spring!
—*Paul Laurence Dunbar.*

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