

Food and Cover for Birds in Winter

by Jane Warren and Keith Ohmart

January 2011

Many birds stay in Lexington in winter while others arrive here from the north. If you would like to attract them to your yard in winter, you can provide diverse food from many kinds of native plants. Many conifer trees and deciduous trees and shrubs have fruits that persist into winter. In addition to providing food, conifers — the focus of this article — have beautiful evergreen foliage that provides shelter from cold air, snow, and wind in winter and protection from predators year round, especially when trees are grouped in clusters.

Some birds — especially juncos — will eat seeds from herbaceous perennials if the stalks are not cut down. Trees with exfoliating bark such as birches have niches where insects hide in winter and supply food for woodpeckers, nuthatches, and brown creepers. Fruits from some non-native invasive species also provide a substantial portion of food for birds in winter, but this is actually harmful because birds spread the seeds and the resulting invasive plants crowd out native plants that are important for healthy ecosystems.

In addition, some birds, including blue jays, chickadees, nuthatches, and woodpeckers, cache food when it is abundant in late summer and fall to eat in winter — and remember most of the locations of the cached seeds over the winter. Studies have found that the birds' brains shed brain cells over the summer and develop new cell structures as winter approaches, which seem to accommodate remembering the new cache locations.

Native Conifers

The Native Plant Materials Guide for Lexington lists seven conifers native to Lexington. All are commercially available. Four are prevalent in Lexington conservation areas and residents' yards: eastern red cedar (*Juniperus virginiana*), eastern hemlock (*Tsuga canadensis*), northern white cedar or arborvitae (*Thuja occidentalis*), and eastern white pine (*Pinus strobus*). The other three conifers native to Lexington, Canada or American yew (*Taxus canadensis* Marsh.), pitch pine (*P. rigida*), and red pine (*P. resinosa*), are less prevalent, but still important. Red and black spruce trees are conifers native to Massachusetts, but not native to the Lexington area, though spruces are used by residents in landscaping in Lexington.

Cones

Conifers are trees or shrubs that bear cones. The male cones, which are small and inconspicuous, produce pollen that is carried in the wind to female parts. The pollen cones develop in spring and fall from the trees soon after. Male cones of different conifer species are structurally quite similar, whereas female cones vary considerably. Female cones develop into seed cones; most are quite conspicuous and attractive to birds. Seed cones of pines native to Lexington are brown, woody, and at least 2 inches long. Arborvitaes and eastern hemlocks have smaller woody cones, less than 1 inch. The female cones of Canada yews and eastern red cedar are highly modified. Cones of Canada yews are composed of a soft berry-like cup surrounding one seed; the cones of red cedars also have a fleshy covering.

Red Cedar

Seventeen or more bird species use eastern red cedars for cover or food in winter in Lexington. Most use them for both. The bluish-green to black, globular, berry-like cones of eastern red cedars are $\frac{1}{4}$ inch in diameter and usually contain 2 seeds. The leaves are of 2 types: needle-like juvenile leaves are found on plants up to 3 years old and on some shoots on adult trees; most adult leaves are scaly. Red cedars can grow in many soil types, but grow best in limestone loam with a pH about neutral. They grow in sun, part shade, or shade and usually reach a height of about 40–60 feet with a spread of 8–20 feet.

Birds that commonly use this conifer for food or shelter:

Wild Turkey	Ring-Necked Pheasant
Mourning Dove	Eastern Screech Owl
American Crow	Northern Mockingbird
Gray Cowbird	American Robin
Eastern Bluebird	Cedar Waxwing
European Starling	Northern Cardinal
Evening Grosbeak	Purple Finch
Chipping Sparrow	Fox Sparrow
Song Sparrow	



Eastern Hemlock

Twelve or more bird species use eastern hemlocks in winter here. Most use them for cover but some eat the seeds or needles. The cones are small brown pendants about $\frac{3}{4}$ inch long. When the trees reach about 20 years of age, the cone crop is heavy, in 2–3 year intervals. The leaves are flat, blunt needles about $\frac{1}{2}$ inch long. Hemlocks prefer moist, well-drained, acidic soil and shade or part-shade, though they can tolerate sun. They do not tolerate wind or drought well. Their height usually reaches 40–70 feet and width 25–35 feet. Hemlocks are susceptible to hemlock woolly adelgid, a small insect from Asia that feeds on sap and causes defoliation and tree decline and may kill the tree.

Birds that commonly use this conifer for food or shelter:

Red-Shouldered Hawk	Mourning Dove
Blue Jay	Black-Capped Chickadee
American Robin	Pine Siskin
American Goldfinch	Red Crossbill
Dark-Eyed Junco	White-Throated Sparrow
Fox Sparrow	Song Sparrow



Northern White Cedar

Northern white cedar or arborvitae provides fair winter food and excellent cover. The robin, common redpoll, pine siskin, and dark-eyed junco eat the seeds, and many songbirds take cover in Arborvitaes. Mature female cones are brown, woody, $\frac{1}{2}$ -inch-long, and elliptic. Arborvitaes as young as 6 years old may produce seeds, but heavy production occurs in 3- to 5-year intervals after 20 years. The leaves are in flattened fan-shaped sprays. Arborvitaes grow best in moist, well-drained limestone soil with neutral pH, though they can grow in wet acid soil. They tolerate sun, part shade, and shade. Arborvitaes usually grow 30 to 60 feet tall (often on the smaller side in cultivation) and 10–15 feet wide. Although they are endangered in Massachusetts, many arborvitaes grow in Lexington because residents have planted them, often in hedges or clusters, sometimes with other conifers or deciduous shrubs.

Birds that commonly use this conifer for food or shelter:

American Robin	House Finch
Common Redpoll	Pine Siskin
Dark-Eyed Junco	Many Songbirds



White Pine

Twenty-four or more species of birds use white pines for food or cover. The brown seed cones are about 4–8 inches long and easily visible on the trees. Most birds eat the seeds from the cones, but wild turkeys eat pine needles as well as seeds. The white pine leaves are slender, soft needles 2–4 inches long, 5 to a bundle. White pines like fertile, moist, well-drained acid soil and prefer sun but tolerate some shade. They grow quickly and are taller than any other conifers in the northeast, often reaching 100 feet or more with a spread of 20–40 feet, often with multiple trunks.

Birds that commonly use this conifer for food or shelter:

Coopers Hawk	Wild Turkey
Ring-Necked Pheasant	Mourning Dove
Pileated Woodpecker	Red-Bellied Woodpecker
Hairy Woodpecker	Blue Jay
Black-Capped Chickadee	Tufted Titmouse
White-Breasted Nuthatch	Red-Breasted Nuthatch
Brown Creeper	Carolina Wren
American Robin	Cedar Waxwing
Northern Cardinal	Evening Grosbeak
Purple Finch	House Finch
Pine Siskin	American Goldfinch
Red Crossbill	Dark-Eyed Junco



Red Pine

The bird species that use white pines for food and cover also use red pines. The fruiting period is from August to October and the fruits persist to the next summer. The woody cones, which contain many seeds, are egg-shaped and about 2 inches long. They appear when plants are about 12 years old at 3- to 7-year intervals. The leaves are soft, flexible, dark green needles 3–8 inches in length, usually in clusters of 2. In the wild, red pines are usually found in dry, acid, sandy soil of low fertility, but they can grow in moist soil, too. They like sunny areas. Red pines are stately trees with straight trunks that grow to 50 to 80 feet or more in height with a width of 1–3 feet.

Birds that commonly use this conifer for food or shelter:
See White Pine list.



Pitch Pine

Nineteen or more species of birds use pitch pines for food and cover. The fruiting period is from November to April. The woody, brown cones, often in clusters of 2–5, are 2–3 inches long and almost as wide as they are long. The cones open in mid-winter and release their seeds, which are very conspicuous when they fall onto snow. The leaves are stiff needles that are flat and curved. The needles are initially yellow-green but eventually turn dark green. They are 2–5 inches long, 3 to a bundle. Pitch pines usually are found in dry, sandy soil or rocky ledges, but also in damp soil near swamps. They like sun. Pitch pines are medium-sized trees about 40–60 feet high and 1 or 2 feet in diameter. They have irregular shapes, somewhat twisted with drooping branches, and often have tufts of needles on their trunks.

Birds that commonly use this conifer for food or shelter:

Wild Turkey	Ring-Necked Pheasant	Mourning Dove
Pileated Woodpecker	Red-Bellied Woodpecker	Hairy Woodpecker
Black-Capped Chickadee	Tufted Titmouse	White-Breasted Nuthatch
Red-Breasted Nuthatch	Brown Creeper	Cedar Waxwing
Evening Grosbeak	Purple Finch	Pine Grosbeak
Pine Siskin	American Goldfinch	Red Crossbill
Dark-Eyed Junco		

Canada Yew

Seven or more species of birds use Canada yews for cover in winter. They eat the fruits in summer, but they do not persist into winter. The fruits are beautiful, bright-red, translucent berry-like cones. The soft cup-like structure contains a hard, nut-like seed that is no more than $\frac{1}{2}$ inch in diameter. The leaves are alternate, flat, narrow needles about $\frac{1}{2}$ –1 inch long with dark green above and light yellow-green below. Canada yews grow in moist soil rich in humus in woodlands and bogs. This shrub can tolerate sun, part shade, and even deep shade. It is a low, sprawling shrub 3–6 feet tall.

Birds that commonly use this conifer for shelter:

Northern Mockingbird	American Robin	White-Throated Sparrow
Song Sparrow	Chipping Sparrow	

Number of Bird Species

Estimates of the numbers of bird species in Lexington in winter using different conifer species were made by combining data about specific bird species using these conifers (from *Trees, Shrubs, and Vines for Attracting Birds* by Richard M. DeGraaf) with 20 years of data on birds in Lexington in winter from Lexington Christmas Bird Count records.

Additional References

- *Trees and Shrubs of New England*, Mary J. Dwelley (1980)
- *A Field Guide to Trees and Shrubs*, George A. Petrides (1958)
- *The Sibley Guide to Trees*, David A. Sibley (2009)
- Lady Bird Johnson Wildflower Center Plant Database