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Agricultural Extension Service
The University of Tennessee

SP 530

Urban Trees for Wildlife

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Viewing wildlife on your property is educational and fun. The kinds and numbers of wildlife that visit your backyard regularly depends on your location, size of area, variety of vegetation and amount of habitat development. Ideally, the habitat surrounding your home should be diverse with several species of trees, shrubs and flowering plants providing food and cover for wildlife throughout the year. The more diverse the vegetation, the greater variety of wildlife that can be attracted to the area.

Trees, in varying stages of growth and sizes, are the backbone of any landscape. Trees provide both cover (shelter) and food for wildlife. Proper selection of plant material can meet both the aesthetic needs of the homeowner and the food and shelter needs of wildlife.

Wildlife habitat is the combination of food, cover, space and water arranged on the landscape that best fulfills the needs of wildlife. On small urban landscapes, such as backyards, all habitat components probably will not be present all year long. Most wildlife are transient and will venture over many properties to meet their habitat needs.

Wayne K. Clatterbuck

Fruits of hollies (*Ilex* spp.) are soft mast cherished by birds and small mammals.

Wayne K. Clatterbuck

Oak (*Quercus* spp.) acorns are a source of hard mast for wildlife.

James F. Parnell

Chipmunks are a favorite animal of many backyard wildlife enthusiasts.

However, providing vegetation diversity and adding components that are scarce or missing to your landscape will improve habitat. This publication focuses on trees that provide some of the cover and food that are beneficial for wildlife, primarily birds and small mammals. For more comprehensive information about planning wildlife habitat on your property, see the references listed at the end of this publication.

Habitat Components: Cover and Food
Types of Trees

Conifers/Evergreens

Conifers and other evergreen trees do not lose their needles or green foliage during the winter. Pines, spruces, arborvitae, junipers, hemlocks, hollies, magnolias and cedars are a few of the evergreens that provide winter shelter, escape cover from predators and summer nesting sites. In addition, many wildlife species use the sap, needles, twigs, buds and seeds of evergreens for food. In Tennessee, where winter cover is often lacking, evergreens are beneficial in protecting wildlife.

Mast- & Nut-Producing Trees

Nut- and acorn-producing trees provide high-energy nutrition for wildlife. Nuts and acorns, collectively called "hard mast," are available only in the fall and winter. Hard mast is rich in fat, allowing many birds and mammals to build up fat reserves that help them survive the winter. Walnuts, hickories, American beech and oaks are the most abundant hard mast producers in Tennessee. While many of the fruit-producing plants are relatively short-lived, hard mast trees are long-lived. Their longevity also increases the probability of natural cavities that numerous wildlife such as squirrels, raccoons or birds can use for shelter.

Soft-Mast Producing Trees

Although hard mast is one of the most valuable foods for wildlife because of its high energy content, other sources of food are required to sustain wildlife populations year round. A great variety of landscape plants that benefit wildlife are the soft-mast producing trees. These plants produce fleshy fruits that are used during the summer, fall and winter as a food source. Nesting, escape cover and some winter cover are provided when these plants form dense thickets. A few of the soft-mast trees in Tennessee include plums, serviceberry, dogwoods, hollies, crabapples, persimmon, apples, hawthorns, mulberry and black cherry.

Snags

A snag is a standing dead tree. Hazardous snags that pose a threat to humans or houses should be cut. However, when posing no danger, snags are extremely valuable habitat for many species of birds, mammals, reptiles and amphibians. The most significant value of snags for wildlife is cavities for denning. Also snags can provide nesting sites, perching sites and territorial establishment. Insects commonly occur under the bark of snags, providing food for woodpeckers, birds, squirrels and other mammals. Generally, the larger the snag, the greater its value for wildlife. However, many snags, though beneficial for wildlife, may be a property hazard and should be removed.

Design Your Landscape with Trees

Horizontal and Vertical Space

Your property has both vertical and horizontal dimensions. The horizontal area is the size of your lot, or surface area of the ground, within the property boundaries. The vertical area stretches from the ground to the tree tops and is composed of the overstory canopy, understory vegetation, ground-level vegetation and even the soil. Different wildlife species, especially birds, live in each of these zones. The more diverse you make the vertical structure of vegetation, the more wildlife species will be attracted and thus accommodated. Maintaining trees of different ages and sizes is a primary means of providing vertical diversity.

Habitat Arrangement

Habitat components should be arranged on the landscape to maximize their benefit to wildlife. A food source with no nearby cover exposed to prevailing winds will not be utilized to its full potential. Poor arrangement of habitat can be detrimental to wildlife by forcing them to unprotected areas.

Providing a variety of habitat attributes in the proper arrangement will increase the chances of attracting wildlife (Figure 1). Conifers should be planted on the north to northwest side of the property to give shelter to wildlife from prevailing winds. Additional food and cover should be developed inside the windbreak to enhance habitat. Where possible, do not plant trees in straight lines. Curved, flowing lines are more appealing. Planting an odd number of plants creating an unbalanced effect provides more visual interest than a balanced, even number of plants.

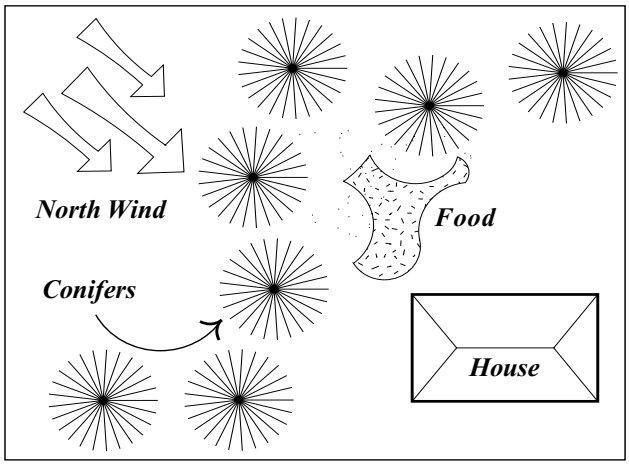

Figure 1. An example of arrangement of food and cover in a backyard wildlife plan. The food source is protected from the prevailing winds by conifers and escape cover is located nearby. *Adapted from* Barnes 1992.

Trees Suitable for Wildlife Plantings in Tennessee

Botanical Name	Common Name	Height	Benefit
Evergreen Trees			
X Cupressocyparis Leylandii	Leyland Cypress	30 - 40’	Winter Cover
Ilex opaca	American Holly	10 - 40’	Winter Cover, Fruit
Ilex spp. (I. x *attenuata)*	Hollies – Foster, Savannah	15 - 25’	Winter Cover, Fruit
Juniperus virginiana	Eastern Redcedar	40 - 90’	Winter Cover, Fruit
Juniperus spp.	Junipers	20 - 50’	Winter Cover
Magnolia grandiflora	Southern Magnolia	60 - 90’	Winter Cover, Seeds
Magnolia virginiana	Sweetbay	25 - 40’	Winter Cover, Seeds
Pinus echinata	Shortleaf Pine	80 - 100’	Winter Cover, Seeds
Pinus strobus	Eastern White Pine	70 - 100’	Winter Cover, Seeds
Pinus taeda	Loblolly Pine	70 - 100’	Winter Cover, Seeds
Thuja occidentalis	Eastern Arborvitae	30 - 45’	Winter Cover
Tsuga canadensis	Eastern Hemlock	60 - 80’	Winter Cover
Tsuga carolininana	Carolina Hemlock	30 - 50’	Winter Cover
Deciduous Trees			
Acer spp.	Maples - Boxelder, Red, Sugar, Black	60 - 100’	Seeds, Buds, Flowers
Amelanchier arborea	Serviceberry	25 - 50’	Fruit
Aralia spinosa	Devil’s Walkingstick	20 - 40’	Fruit, Seeds
Asimina triloba	Pawpaw	15 - 35’	Fruit
Carpinus caroliniana	Hornbeam	20 - 30’	Seeds, Catkins
Carya spp.	Hickories - Shagbark, Mockernut, Pignut	50 - 80’	Nuts
Celtis spp.	Hackberry, Sugarberry	40 - 70’	Fruit
Chionanthus virginicus	Fringetree	15 - 30’	Fruit, Seeds
Cornus florida	Dogwood	15 - 30’	Fruit, Seeds
Crataegus spp.	Hawthorns	15 - 30’	Cover, Fruit
Diospyros virginiana	Persimmon	40 - 65’	Fruit, Seeds
Fagus grandifolia	American Beech	60 - 80’	Nuts
Fraxinus spp.	Green, White Ash	60 - 80’	Seeds
Gleditsia triacanthos	Honeylocust	40 - 65’	Fruit, Seedpods
Juglans nigra	Black Walnut	70 - 100’	Nuts
Malus spp.	Crabapples	15 - 30’	Fruit
Morus rubra	Red Mulberry	40 - 60’	Fruit
Nyssa sylvatica	Blackgum	60 - 80’	Fruit, Seeds
Ostrya virginiana	Eastern Hophornbeam	20 - 35’	Fruit, Buds, Catkins
Prunus serotina	Black Cherry	50 - 100’	Fruit
Prunus spp.	Plums	20 - 30’	Fruit
Quercus spp.	White Oaks - Chinkapin, Chestnut, White, Post, Overcup, Bur	60 - 90’	Acorns
Quercus spp.	Red Oaks - Northern Red, Southern Red, Scarlet, Black,Willow, Water, Cherrybark, Shumard, Pin, Nuttall	60 - 100’	Acorns
Rhamnus caroliniana	Carolina Buckthorn	20 - 35’	Fruit
Rhus spp.	Shining, Staghorn Sumac	20 - 30’	Fruit
Sassafras albidum	Sassafras	40 - 60’	Fruit
Sorbus americana	American Mountain Ash	15 - 30’	Fruit

Wildlife Damage

Landscaping to attract wildlife to your property also can attract nuisance animals, such as opossums, skunks, snakes, mice and other rodents. Most of these animals are highly adaptable to urban environments. You will need to balance your desire to attract wildlife with your threshold for tolerating animal damage. Some nuisances that could damage property include: woodpeckers destroying wood siding on your home, rabbits damaging your vegetable garden, bats finding a home in your attic, rodents infiltrating your house, voles eating your ornamental plants or birds roosting on your property. Your best plan of action is to take steps to prevent damage before it occurs and realize that plantings close to your house and other structures will invite wildlife, both wanted and unwanted. Contact your local Agricultural Extension office for information in controlling many pest and nuisance animals.

Recommendations

- Select combinations of trees that provide maximum continuity of hard and soft mast, especially those that will persist into winter when other foods are scarce.
- Increase diversity by planting a variety of vegetation. The more diverse the vegetation, the greater the variety of wildlife that can be attracted to the site.
- Plant evergreen trees to provide protective cover during adverse weather. Evergreen trees are a habitat component often lacking from many urban landscapes.
- Consider snags for habitat enhancement.
- Plan both the horizontal and vertical structure of your trees and other vegetation to maximize wildlife habitat benefit.

James F. Parnell

Praire warbler and common yellowthroat are summer residents of Tennessee.

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