


# So, What Should I Plant?

## *Trees, Shrubs and Vines with Wildlife Values*



*Tree nurseries and garden catalogs are a lot like candy stores. The color, shape, texture, flowers, fruit and many other factors provide a multitude of choices that can entice you to purchase more plants than you really need, or to buy something you don't need at all. Before you buy, consider the following: What plants are already attracting wildlife to your property? What good wildlife trees and shrubs are missing? What wildlife do you want to attract? Can a particular plant grow in your location and in your soils? This publication will give you the information you need to make the best plant selections for wildlife on your land.*

**B**efore you begin making decisions about what trees, shrubs or vines you should plant on your property to attract wildlife, it is essential that you understand some fundamental concepts in wildlife management. Be sure to read **Calling All Wildlife** in this series to help you with these concepts and with basic habitat evaluation on your land. Then look around your neighborhood, find out what naturally grows in your area, and decide how you can enhance the native habitat or landscape features on your property. For habitat inventory information, mapping tips and assistance in creating a wildlife management plan for your property, refer to **Putting Pen to Paper** in this series.

Also, read the **Wisconsin Wildlife Primer** to help you understand which animals occur in your region of Wisconsin, what they eat,

what habitats they prefer and what they need for nest or den sites. The more information you have, the better you'll understand your land and the wildlife it supports.

The publication you are now reading will help you evaluate the wildlife value of plants currently growing on your property. Once you've read the other publications mentioned above, use this bulletin to help decide which plants you could add to your property to attract wildlife native to the habitats on your land.

All plants described in this publication were selected for their value to wildlife. Some of the plants were selected because they provide good-to-excellent food sources. Some were selected because they provide maximum winter shelter. Others were selected because they are common on the Wisconsin landscape, offer some wildlife value, and could very well be growing on your property already (e.g., mulberry or boxelder).

When creating a wildlife management plan for your property, keep in mind that—per square foot of land invested—shrubs will provide more food and cover for wildlife than trees. That's because shrubs bear fruit at an earlier age, and they bear that fruit from year to year more consistently than trees. You will receive a much faster payback by planting more wildlife shrubs than trees. Nevertheless, the wildlife trees described here provide excellent food and/or shelter and should be included in your plans. You'll just have to wait a little longer to reap the benefits.

The geographical location of your property in Wisconsin, its soil types and moisture levels, depth to bedrock, the kinds of wildlife that already live on your property, and your own personal wildlife management goals will determine what plants you should consider using to attract wildlife.

### ***Native vs. Non-Native***

Since the arrival of European settlers, our native Wisconsin landscape has changed dramatically—its overall biological diversity has decreased. Today, natural resource managers are dealing with many problems associated with the widespread invasion of non-native, or alien, plants. Often, these alien plants are so aggressive in their growth

**Note:** Emphasis is placed on native plants, since these are best adapted to Wisconsin's climate and soils. Not every plant described here is one that you can readily purchase at your local nursery. You may have to order seeds or potted plants from one of Wisconsin's native plant nurseries listed in **Getting the Help You Need**. Not all native plants described in this publication are ones that you would want to plant (boxelder, for example); they have wildlife value, nevertheless and you may want to keep them on your land if they are already there.

they choke out, shade out or otherwise out-compete the more beneficial native plants that originally grew on Wisconsin's soils.

To help maintain our state's native biodiversity, choose plants native to Wisconsin since they are especially suited for our state's climate and are part of our natural history. In particular select those native plants which are adapted for your property and soil types. Some plants introduced from other parts of the United States or other countries may not be hardy enough to withstand the extremes of drought and cold peculiar to Wisconsin. Others may survive all too well and become invasive pests. *Cultivars*—horticulturally-altered or "improved" varieties of native plants—may work well as landscape plants around your house, but are inappropriate for native restorations or wildland plantings.

Sometimes the best thing you can do to improve your property's ability to attract a high-quality assemblage of native wildlife is to control the alien plants that may have taken hold. This may mean conducting a controlled burn, pulling new invaders, cutting brush and treating the stumps with a brush herbicide, or controlling alien grasses or weeds with an approved herbicide. Contact the Bureau of Endangered Resources, Madison, to receive a copy of **Invasive Species Control Recommendations**.

If you don't have a problem with exotics on your land, you may find that the best way of enhancing your property for wildlife is to plant trees, shrubs and vines native to your area. Sometimes, the best tools of the wildlife management trade are the axe, the match and the spade.



## Plant for Diversity

It is rare in nature to find "monocultures"—large stands of a single plant type. You and your wild neighbors will be better off if you plant a good assortment of native trees, shrubs and vines adapted to the habitats on your property. The greater the variety of native plants you select, the more wildlife your land can support. By selecting an assortment of native plants, you can minimize your risk of losing all your plants should disease strike a particular species of plant. Also, if one species should fail to produce a nut or fruit crop in a given year, another kind of nut- or fruit-bearing plant could provide alternative food sources.

## Where Can I Get The Plants I Need?

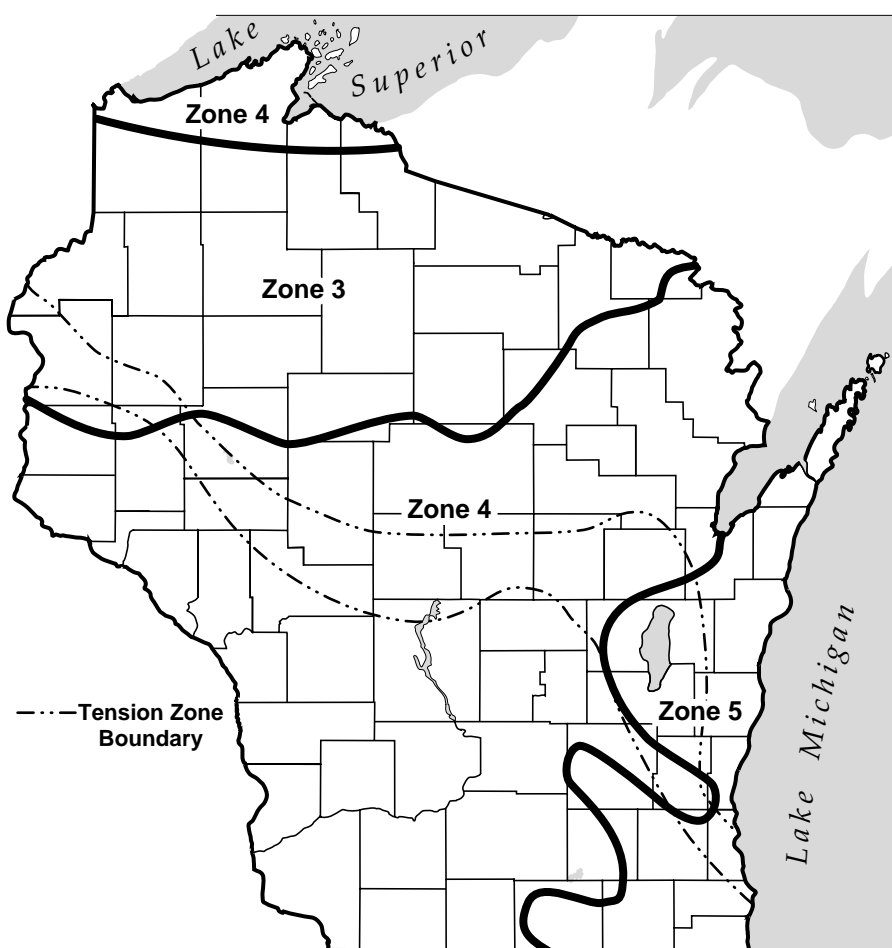
You can purchase some plants from local or native plant nurseries or from one of the Department of Natural Resources nurseries listed in **Getting the Help You Need** in this publication series. DNR's Wilson Nursery in Boscobel specializes in wildlife trees and shrub packets. Contact your local DNR office for a trees and shrubs order form. If you have questions, or want to make an extensive planting, contact your local DNR wildlife manager or forester. They can give you detailed advice about planting, weed control, and special concerns associated with your specific property and the plants you're interested in growing.

### Plant Hardiness Zones and the Tension Zone

Be sure plants are hardy for your zone, or if your planting area is borderline, pick a sheltered area for tender species.

Wisconsin is divided into two distinct floristic provinces, the southern *Prairie-Forest Province*, and the northern *Hardwoods Province*. The area of overlap of these two floral realms is called the **Tension Zone**.

Many of the state's native plant species survive, or grow well, only in their natural province, and should not be planted far outside of their native ranges and preferred zones.



# Using This Publication

The trees, shrubs and vines are divided into 6 categories:

1. Vines
2. Shrubs
3. Fruit-bearing Trees
4. Nut-bearing Trees
5. Other Deciduous Trees
6. Evergreen Trees

We describe the wildlife benefits, geographical range and any special soil characteristics for each tree, shrub and vine. If a specific soil type is not listed, assume that the plant grows on "average" soils that are neither too wet nor too dry, nor too infertile or too organic. When you purchase trees and shrubs, be sure to use the scientific name to avoid getting the wrong plant. Also, carefully read and follow the planting instructions that come with your purchase.

**Warning:** Rabbits, mice and voles are active all winter. Since leaves, grass and other typical summer foods are unavailable, they often resort to eating the tender outer bark from young trees and shrubs in order to survive. To protect your landscaping investment from damage by these bark-eating mammals, encircle young yard trees and shrubs with chicken wire, hardware cloth, plastic tree-guards or tree wrap. For wildland plantings, mow the grass surrounding your plantings to remove the cover that rabbits, mice and voles use. You may want to install raptor perch poles as well. Your local garden center can assist you with which choice is appropriate.



## Key for the Following Listing:

- Common name of tree, shrub or vine
- Scientific name
- Planting zones
- Season it provides food
- Descriptive paragraph about the life cycle of the plant and the wildlife that uses it.

All the plants in this publication provide some form of nesting, resting or hiding cover for one animal or another. However, the evergreens are of extreme importance in winter since their green boughs provide the greatest shelter from harsh weather. Vines also provide excellent year-round shelter for rabbits, some songbirds, pheasants and bobwhite quail.

### 1. Vines

#### American Bittersweet

*Celastrus scandens*

Zone 3

Winter fruit

American climbing bittersweet is a low rambling vine that grows along fencerows, streams and woodlands in well-drained soils statewide.

The bright red berries are set off by capsules that split open to reveal a brilliant yellow-orange interior, which helps verify that it is the native plant, rather than the similar, but alien bittersweet *Celastrus orbiculatis*. Beware of this alien; it can be particularly invasive and nurseries often sell it instead of the native bittersweet. American bittersweet may retain its fruit throughout the winter. Buy from nurseries or propagate this plant from seed or stem cuttings. Do not dig up wild bittersweet—it is becoming rare in some places. Many birds eat its seeds, including



bluebirds and robins. Grouse, pheasants, turkeys and quail eat the seeds and buds. Leaves are often nibbled by rabbits and squirrels.

### Virginia Creeper

*Parthenocissus quinquefolia*

Zone 4

Fall food

Look for this native vine creeping along the forest floors, growing up tree trunks in Wisconsin's southern forests, climbing the sides of abandoned farm buildings, growing along roadsides, and trailing along fences. Its striking scarlet autumn foliage and deep blue berries on bright red stalks make it a popular choice for backyard trellises and garden walls. Brown thrashers, bluebirds and robins like the fruit, as do woodpeckers, white-breasted nuthatches and scarlet tanagers. A variety of vireos, warblers, thrushes, finches and small mammals also enjoy the fruit.



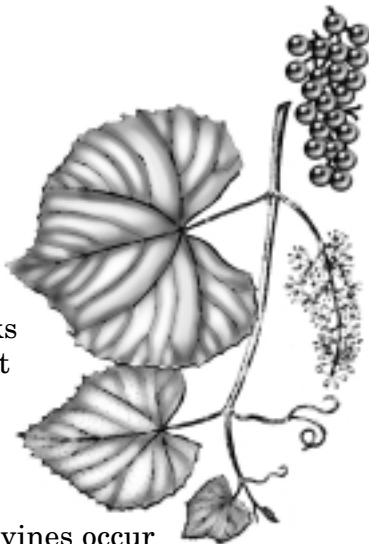
### Wild Grape

*Vitis* species

Zones 3 to 5

Fall food

Wild grapevines grow along woodland edges and up tree trunks or along the forest floor in open woodlands. They also are common growing along fencerows. These vines occur throughout Wisconsin, but are most common in southern farmlands. Summer grape (*Vitis aestivalis*) and riverbank grape (*Vitis riparia*) are two native grapes. Grapes can be very aggressive and cover and shade out other vegetation. The berries are consumed by



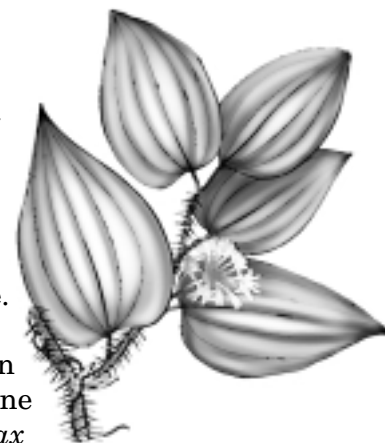
raccoons, red foxes, black bears, opossums, skunks, quail, wild turkeys, ruffed and sharp-tailed grouse, and such songbirds as blue and gray jays, thrushes, brown thrashers, gray catbirds, cedar waxwings, Baltimore orioles, scarlet tanagers, cardinals, and some vireos, warblers, blackbirds, grackles and finches. Deer like the leaves and twigs. Some birds use the shredded bark to build their nests.

### Bristly Greenbrier *Smilax hispida*

Zone 5

Summer fruit

This native climbing vine, covered with tiny thorns, forms tangled, prickly thickets in forests throughout the state. Some forms of greenbrier are known as carrion flowers. One carrion flower (*Smilax ecirrhata*) can be found growing in lowland woods in southern Wisconsin, while common carrion flower (*Smilax lasioneura*) is found growing in open woods and along fencerows. Another carrion flower (*Smilax herbacea*) is generally uncommon. The tangled nature of greenbriers make them excellent cover for wildlife. Deer and rabbits browse the vine, and small mammals, ring-necked pheasants, gray catbirds, cardinals, thrushes and sparrows eat the blue-black berries.



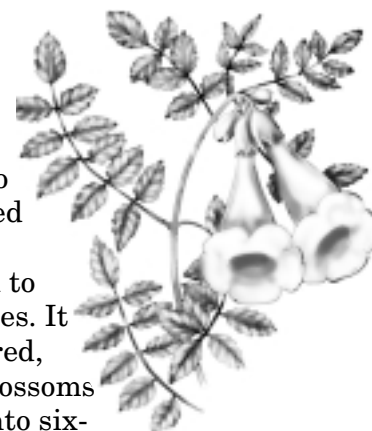
### Trumpetvine

*Campsis radicans*

Zone 5

Summer nectar

This vine, native to the southern United States, makes an attractive addition to backyard landscapes. It has large, orange-red, trumpet-shaped blossoms which later turn into six-



inch-long, slender fruit pods. The blooms of this ornamental landscape plant attract ruby-throated hummingbirds.

## 2. Shrubs

### Blackberry

*Rubus*

*allegheniensis*

### Black Raspberry

*Rubus occidentalis*

### Thimbleberry

*Rubus parviflorus*

Zones 3 to 4

Summer fruit

Blackberries, raspberries and thimbleberries grow along woodland edges, fencerows and clearings. Blackberries and raspberries grow statewide, while thimbleberries grow only in the Lake Superior region. Blackberries need full sun; raspberries and thimbleberries tolerate some shade. All provide excellent summertime food for more than 100 different kinds of birds and mammals. Just about every kind of woodland edge bird feasts on the berries, from catbirds, brown thrashers, pine grosbeaks, orioles, robins and other thrushes to scarlet tanagers, blue jays, cardinals, pheasants, yellow-breasted chats and fox sparrows. Ruffed and sharp-tailed grouse, bobwhite quail, turkeys and woodcock also consume the berries, as do black bears, raccoons, chipmunks and squirrels. The dense, prickly thickets provide good escape cover for rabbits, chipmunks and birds. Beware of planting these berries in small areas. They tend to spread quite aggressively and can quickly take up a great deal of space, as well as prevent you from moving about in the area.



thimbleberry

### Green Alder

*Alnus viridis*

### Speckled Alder

*Alnus incana*

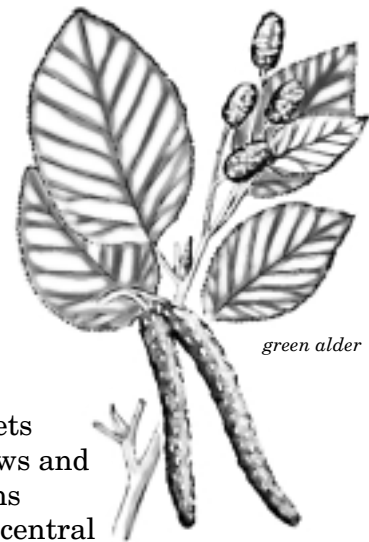
### Smooth Alder

*Alnus serrulata*

Zones 3 to 5

Spring and summer food

Alders thrive in thickets found in moist meadows and streambank floodplains throughout northern, central and southern Wisconsin. The green alder is found in bogs, cool woods, and shores. The shrubs can grow to a height of over eight feet. Speckled alder is hardy farther north and tolerates more shade. Green alder is often found growing along lakeshores. Grouse and small mammals take cover in these thickets and woodcock find them ideal for nesting. Goldfinches, pine siskins, redpolls and sharp-tailed grouse eat the seeds, while ruffed grouse consume the buds, catkins and seeds. Beavers, snowshoe hares and deer browse on the leaves and twigs. None of these are ornamental plants. Beware of the alien European alder (*Alnus glutinosa*); it is very invasive.



green alder

### Gray Dogwood

*Cornus racemosa*

Zone 4

Late summer and fall food

This shrub grows up to 7 feet high on a variety of soils throughout Wisconsin. It needs full sun, and since it regenerates from underground stems, it forms clumps. Gray dogwood has high wildlife value, especially in August when its small, white berries ripen. Woodcock and songbirds take cover in gray dogwood thickets, and evening grosbeaks, cardinals, cedar waxwings, pheasants, ruffed grouse and bobwhite quail relish its fruit. Black



bears, squirrels, beavers, raccoons and skunks eat the fruits and leaves. It can be invasive in prairie areas and can spread aggressively. Controlled burning provides a good management tool. Better yet, cut stems in summer or fall and apply herbicide to the cut stems.

**Red-osier Dogwood** *Cornus sericea*

Zone 3 to 5

Fall food

This dogwood with bright red stems and showy white flowers is common in swamps and wet meadows, and is a dominant shrub in special habitats known as shrub carrs. It is extremely winter-hardy throughout Wisconsin.

Its colorful appearance makes it a popular ornamental for landscaping. May flowers produce a clump of small white berries by mid-summer. Red-osier dogwood grows from 4 to 10 feet tall on wet to well-drained soils in sun or shade. In late winter and early spring, the stems turn from a brown-red to a bright red, providing an exciting splash of color to an otherwise white, snow-covered landscape. Wild turkeys, ruffed grouse, bobwhite quail, woodpeckers, flycatchers, catbirds, brown thrashers, cedar waxwings, cardinals and grosbeaks feed heavily on the berries. This shrub provides excellent cover, but can spread in wetland areas and needs to be controlled with prescribed burning.



**Silky Dogwood**

*Cornus amomum*

Zone 5

Late summer and fall food

Silky dogwood grows to 4–10 feet tall, prefers moist soils, and grows in shade or full sun along the edges of marshes or wet meadows. Landowners like the white flowers that bloom in May and mature into blue berry-like fruits in August. Silky dogwood is prime food for the cardinal, evening grosbeak, robin and pine grosbeak, which glean the berries off by September. Wild turkeys, ruffed grouse, bobwhite quail and ring-necked pheasants relish both the buds and the berries. Deer, squirrels, black bears and beavers browse on the stems and leaves.



**Common Elderberry**

*Sambucus canadensis*

Zone 5

Summer food

Elderberry is a tall shrub that can grow up to 10 feet high in average to moist soils statewide except in the far north, in disturbed areas like roadsides and fencerows. The fruits are eaten by people and wildlife. Beware—the red fruits from the related *Sambucus pubens* can be toxic. The showy white flowers of common elderberry make this a landscape shrub to consider. However, it has straggly long stems and relatively few leaves. It makes a good ornamental if bunched with other shrubs. Eastern bluebirds, ring-necked pheasants, wild turkeys, mourning doves, grouse, grosbeaks, woodpeckers, squirrels and rabbits eat the fruits; white-tailed deer browse on the leaves.



**American Hazelnut***Corylus americana***Beaked Hazelnut***Corylus cornuta*

Zones 3 to 4

Fall and winter food

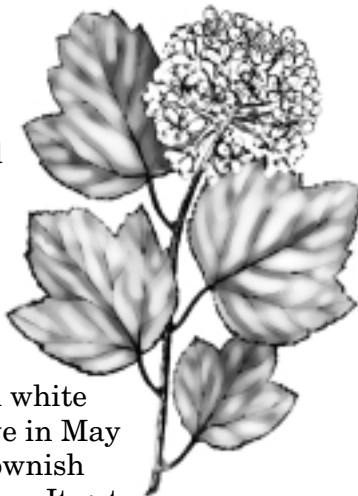
If you live north of the tension zone, (see map on page 3), plant beaked hazelnut; if you live on the south side of the zone, or in dry, sandy woods, plant American hazelnut. These bushes grow best on moist, fertile soils in thickets and make good hedgerows and woodland border plants. Hazelnuts are consumed by fox and red squirrels, eastern and least chipmunks, blue jays, hairy woodpeckers, wild turkeys and ring-necked pheasant. Ruffed grouse readily ingest the catkins. Deer, moose, snowshoe hares and beavers eat the leaves and twigs. The dense thickets make good cover for woodcock, grouse and small mammals.

**Ninebark***Physocarpus**opulifolius*

Zones 3 to 5

Fall and winter food

Ninebark is a good choice for very dry sites and is found from blufftop "goat prairies" to sedge meadows. The small white flowers are attractive in May and develop into brownish capsules in September. It gets its name because its bark peels off in papery strips resembling "9s." This shrub may reach 10 feet high at maturity. Ruffed grouse eat the buds and some songbirds eat the small seeds. The primary wildlife value of ninebark is the cover its multi-stemmed, arching branches provide to small mammals and nesting birds.

**American Highbush Cranberry***Viburnum trilobum*

Zones 3 to 5

Winter Food

Highbush cranberry grows in moist to medium-moist woods but it can tolerate full sunlight. This shrub in the Viburnum family reaches 10–13 feet in height. Its attractive white flower clusters in May turn into bright orange-red fruits by September, making it a popular landscape shrub. The tart fruits are not very palatable to most birds and so persist on the shrub throughout winter. They provide a late-winter emergency food source for songbirds, grouse, pheasants, wild turkeys, white-tailed deer, cottontail rabbits and small mammals. Rabbits and small rodents eat the bark of young plants. Cedar waxwings prefer these berries as a late winter food after freezing has "sweetened" them. Be sure not to plant the alien European highbush cranberry (*Viburnum opulus*), for it is an invasive and persistent non-native.

**Nannyberry***Viburnum lentago*

Zone 3

**Mapleleaf Viburnum***Viburnum**acerifolium*

Zone 3

**Arrowwood***Viburnum dentatum*

Zone 4

Late summer, fall, and winter food



These are three other popular Viburnums. Arrowwood and nannyberry grow best in the shade of woodland borders across southern Wisconsin. Mapleleaf viburnum is a three- to six-foot shrub preferring forest shade. They are planted in backyards for their flowers and



showy dark blue-to-black fruits. Nannyberry makes excellent winter food. Ruffed grouse, brown thrashers, cedar waxwings, thrushes, woodpeckers, several finches, red squirrels and deer eat the fruit of these *Viburnum* shrubs.

### Staghorn Sumac

*Rhus typhina*

### Smooth Sumac

*Rhus glabra*

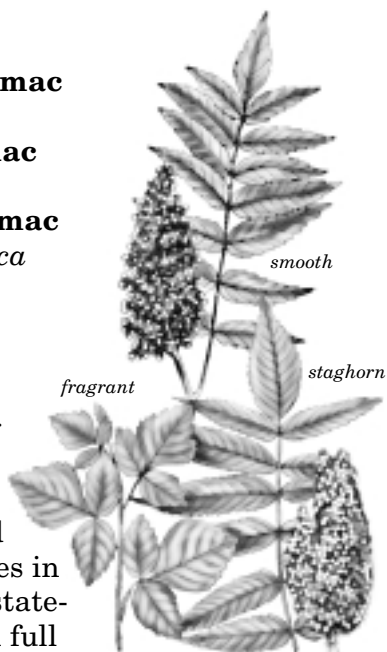
### Fragrant Sumac

*Rhus aromatica*

Zone 4

Winter food

Sumacs form thickets along roadsides, clearings, fencerows and woodland edges in sandier soils state-wide. All need full sun. Staghorn sumac has brilliant scarlet foliage in the fall and showy red fruit throughout winter. Sumac is beneficial for a variety of wildlife; however, you should consider carefully before establishing these shrubs if they are not presently on your property. Smooth and staghorn sumacs grow rapidly in spreading, circular colonies, and spread as well by seed; it can be difficult to control once established. Fragrant sumac is a beautiful landscape plant, and is adapted to dry-to-average, moist rocky woodlands. Sumac fruit clusters are an important winter survival food for ring-necked pheasants, ruffed grouse, bobwhite quail, woodpeckers, blue jays, chickadees, cardinals, goldfinches, deer and cottontail rabbits. Deer, cottontails and squirrels nibble on the bark and twigs. In addition, staghorn sumac attracts butterflies.



### Wild Rose

*Rosa* species

Zones 3 to 5

Winter Food

Wild roses grow in thickets in meadows, open woods, stream margins, fencerows, roadsides and woodland edges across the state. Too many varieties exist to mention individually. Most have beautiful flowers, and their rosehips are eaten as emergency winter food by ring-necked pheasants, sharp-tailed grouse and prairie chickens. Deer, cottontail rabbits and small mammals browse the twigs. If you intend to plant wild roses, **do not plant** the alien multiflora rose (*Rosa multiflora*). This invasive non-native is illegal to plant under the Wisconsin nuisance weed law because it is very aggressive and spreads rapidly.



## 3. Fruit-bearing Trees

### Prairie Crabapple

*Pyrus ioensis*

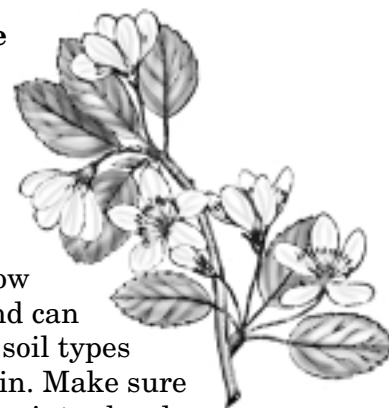
### Sweet Crabapple

*Pyrus coronaria*

Zone 5

Fall and winter food

Some crabapples grow up to 25 feet high and can be planted on many soil types throughout Wisconsin. Make sure the tree you plant is winter hardy in your area. The alien Siberian crab (*Malus baccata*) is a large crab hardy throughout Wisconsin. It occasionally escapes to the wild. The Sargent crab (*Malus sargentii*) is also an alien. It produces abundant white to pink blossoms in May. The tiny 1/4 inch red, yellow or orange fruits mature in September. Landowners cherish crabapples for their fragrant and colorful spring blossoms, and wildlife also consume the fruit. Crabapples



make good winter food. Nearly 30 different kinds of birds eat the small apples, including cedar waxwings and robins. White-tailed deer and mallard ducks will also eat fruit that has fallen on the ground. Cottontail rabbits and deer will nibble on the leaves and bark.

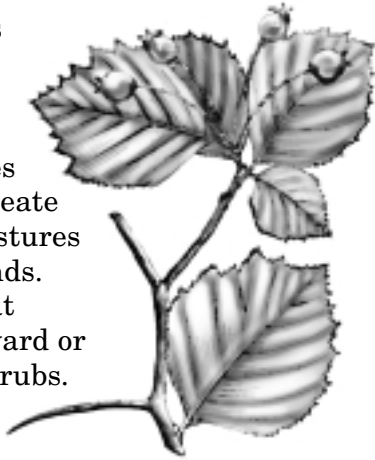
### Hawthorn

*Crataegus* species

Zone 5

Winter food

These thorny trees or large shrubs create thickets in old pastures and open woodlands. They make a great shelterbelt, backyard or woodland edge shrubs. Numerous kinds of hawthorns are native to Wisconsin. Be sure to avoid the cultivars. In spring, honeybees and bumblebees swarm to the sweet-smelling, nectar-rich blossoms. In winter, fruits provide food for ruffed and sharp-tailed grouse, cedar waxwings, fox sparrows, thrushes and finches. Black bears and raccoons also consume the fruits, while white-tailed deer and cottontail rabbits browse on the twigs and bark. Many animals take cover in the thickets that hawthorns form. Brown thrashers often find these shrubs to be prime nest sites, and northern shrikes use the thorns to impale their prey before feeding.



### Black Cherry

*Prunus serotina*

### Pin Cherry

*Prunus pennsylvanica*

### Choke Cherry

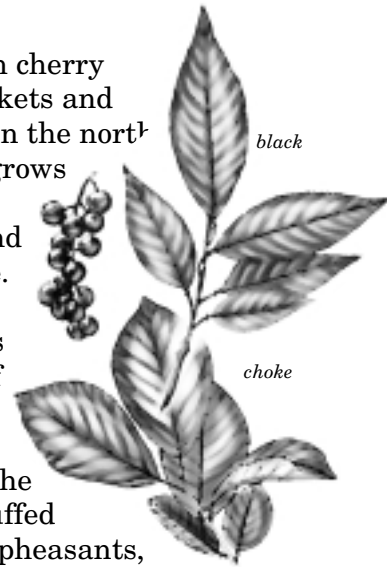
*Prunus virginiana*

Zones 3 to 4

Summer food

Black cherry grows most commonly in southern hardwood forests. This is the largest cherry and can reach 75 feet in height. Pin cherry and choke cherry reach approximately

25 feet in height. Pin cherry grows in woods, thickets and clearings primarily in the north while choke cherry grows along thickets, woodland borders and shorelines statewide. All native cherries make good plantings around the border of your yard. Cherries are one of the best wildlife food trees. The fruit is favored by ruffed grouse, ring-necked pheasants, robins, brown thrashers, gray catbirds, blue jays, cedar waxwings, thrushes, vireos, grosbeaks, finches, flycatchers and red-bellied and red-headed woodpeckers. Black bears, red foxes, cottontail rabbits, raccoons, squirrels, eastern chipmunks and mice eat fruit that has fallen to the ground. Deer and rabbits nibble on the leaves and twigs. Do not plant where cattle graze since the bark and leaves contain hydrocyanic acid, which is a poison to livestock.



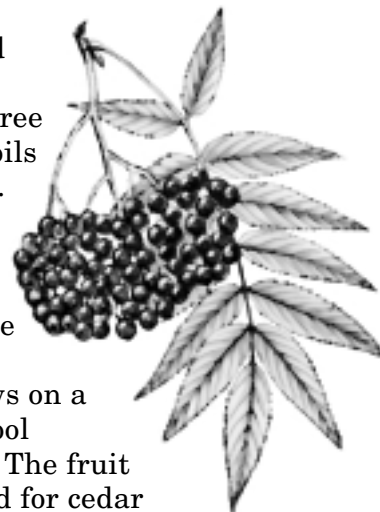
### American Mountain Ash

*Sorbus americana*

Zone 3

Fall and winter food

In Wisconsin, this tree is found on moist soils or shallow dry soils. Attractive leaves, blossoms and bright orange fruit make this small tree popular with landowners. It grows on a variety of soils in cool climates statewide. The fruit provides winter food for cedar waxwings, evening and pine grosbeaks, sharp-tailed and ruffed grouse, red-headed woodpeckers, and thrushes. Watch for tipsy birds as they get intoxicated on fermented berries in late winter. Protect new plantings from deer or they'll nip the



tender twigs and leaves. Mountain ash also attracts eastern tent caterpillars and is very susceptible to fire blight disease. Avoid the alien European Mountain Ash (*Sorbus acuparia*), which is non-native and can be invasive.

### Wild Plum

*Prunus americana*

Zone 3 to 5

Fall food

Wild plum grows in dense thickets along sunny roadsides and fencerows, often amidst other trees or shrubs.

Individuals can grow up to 15 feet tall. Landowners like the white blossoms that bloom in May. The one-inch, red-orange to blue sweet plums mature in August. Avoid cultivars and exotics. Wild plums provide excellent nesting habitat for many songbirds and cover for small mammals. Foxes and other mammals eat the fruit and deer browse on the leaves and twigs. The fruit also makes excellent jelly and jam.



### Eastern Serviceberry or Shadbush

*Amelanchier canadensis*

#### Downy Serviceberry

*Amelanchier arborea*

#### Smooth Serviceberry

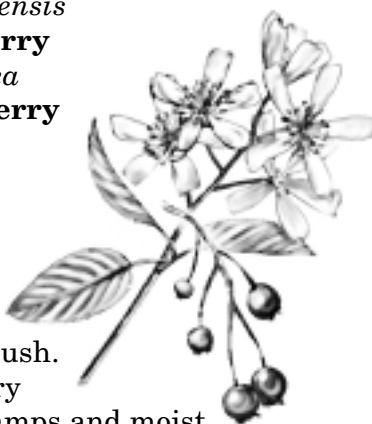
*Amelanchier laevis*

Zones 3 to 5

Early summer food

Serviceberries are also referred to as Juneberry or shadbush.

Eastern serviceberry can be found in swamps and moist woods in Wisconsin. The downy serviceberry grows in dry upland woods, while the smooth serviceberry prefers dry or moist upland woods. These small trees are known for their delicate white flowers and delicious fruit. Serviceberry bears fruit in late June, making



it one of the earliest summer berries. Several native varieties provide a good selection for landowners. Robins and other thrushes, woodpeckers, eastern kingbirds, cedar waxwings, Baltimore orioles, scarlet tanagers, red-eyed vireos, cardinals and rose-breasted grosbeaks relish the sweet, purple fruit, as do fox and gray squirrels, eastern chipmunks and black bears. White-tailed deer and cottontail rabbits browse the leaves and twigs. The fruit tastes and can be used much like blueberries.

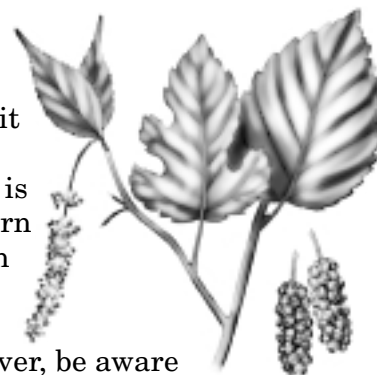
### Red Mulberry

*Morus rubra*

Zone 5

Early summer fruit

The red mulberry is a native to southern Wisconsin and can be found in rich woods, especially floodplains. However, be aware that this wildlife tree's fruit can be messy and can stain sidewalks and cars in urban areas. The tree is particularly abundant in farmyards and even in cities and suburbs. An excellent fruit-bearer, the red mulberry is attractive to many kinds of wildlife. Songbirds from Baltimore orioles, robins, rose-breasted grosbeaks, blue jays and crows to brown thrashers, cedar waxwings, scarlet tanagers, indigo buntings, woodpeckers, vireos and finches quickly consume the large, juicy fruits that ripen so early in summer before most other berries. Raccoons and opossums also gorge on the plentiful harvest. Avoid the invasive alien white mulberry (*Morus alba*).



## 4. Nut-bearing Trees

**Beech***Fagus grandifolia*

Zone 3

Fall and winter food

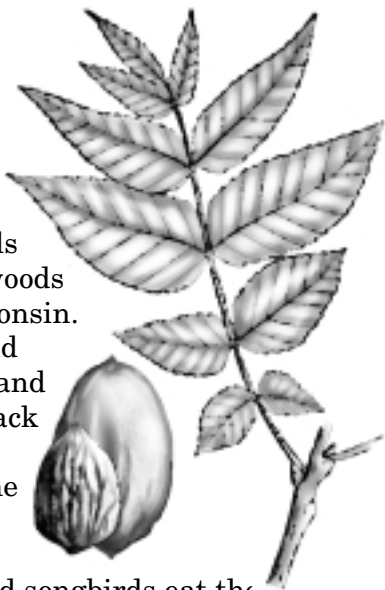
Beech trees grow near Lake Michigan where the lake creates the cool, moist environment that these trees prefer. They grow best on good quality, rich soils. While beeches may be planted farther inland, hard winter freezes may kill them. This tree is beautiful in fall and its nuts provide excellent wildlife food for squirrels, chipmunks, bears, porcupines, grouse and many songbirds such as blue jays, chickadees, tufted titmice, blackbirds and woodpeckers. The nut crop is large about every 2 or 3 years.

**Butternut***Juglans cinerea*

Zones 3 to 5

Fall food

This hardy tree grows on rich soils with other hardwoods in southern Wisconsin. Woodpeckers, wild turkeys, and fox and gray squirrels crack open the tough shells to get at the tasty butternuts inside. Wood ducks, finches and songbirds eat the buds. Keep a watchful eye on these trees, they are very susceptible to Butternut canker disease. *For more information on this disease or other forest diseases, contact DNR's forest pathology office at (608) 275-3273. An extensive search is underway to find butternut trees resistant to the canker disease, so please*



report the existence of **uncankered** mature trees to this same contact.

**Black Walnut***Juglans nigra*

Zones 4 to 5

Fall and winter food

Black walnut trees grow mainly in southern hardwood forests on deep, well-drained, silty loam soils, and often reach a height of 100 feet. Despite the thick and coarse bark, the black walnut makes a great cavity and den tree for a variety of animals. They're also highly valued for their wood. Fox and gray squirrels and red-bellied woodpeckers crack the very hard nuts of black walnut to get at the nutmeat inside. Squirrels bury the nuts in the fall and make use of them in early spring when the ground thaws. Avoid planting black walnuts near vegetable gardens; they secrete juglantic acid into the soil which inhibits plant growth, especially those plants in the tomato-potato family.



**Shagbark Hickory***Carya ovata***Bitternut Hickory***Carya cordiformis*

Zone 5

Fall and early  
winter food

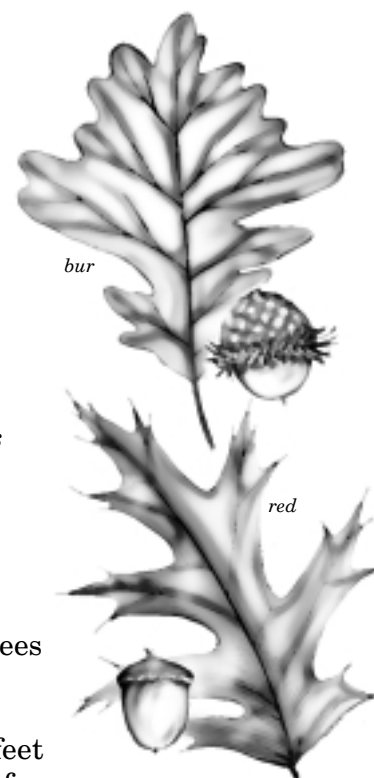
Shagbark hickory grows in southern Wisconsin on fertile soils. It is slow growing, long-lived and may reach a height of 100 feet. When its leaves turn deep yellow in fall, many people collect the tasty nuts. Bitternut hickory is found statewide in association with other hardwood trees, and reaches a maximum height of around 75 feet. The nuts of the bitternut hickory are just that—bitter. Shagbark and bitternut hickories produce large nuts that are a favorite of fox and gray squirrels, eastern chipmunks and red-bellied woodpeckers. Wood ducks, ring-necked pheasants, bobwhite quail, wild turkeys, red foxes and black bears also consume these small, hard-shelled nuts. Deer browse the leaves and twigs.

**White Oak***Quercus alba***Bur Oak***Quercus macrocarpa***Swamp White Oak***Quercus bicolor***Red Oak***Quercus rubra***Black Oak***Quercus velutina***Northern Pin Oak***Quercus ellipsoidal*

Zones 4 to 5

Fall and winter food

Oaks are considered one of the most important wildlife trees in Wisconsin. These slow growers vary in height from 45–100 feet and have very long life spans. Though found statewide, red oak is more common on better soils. White oak and black oak grow in dry to average-moisture forest soils statewide. The bur oak is found in the average to dry soils of southern Wisconsin prairies and savannas. The less common northern pin oak is found mostly in northern Wisconsin forests on sandy soils. Swamp white oak is common in the floodplains along the Mississippi and Wisconsin rivers and their tributaries. Northern pin, black, and red oaks are susceptible to oak wilt if it is in the area. Larger oaks are difficult to transplant, so your best bet is to plant them as acorns or young seedlings. Protect the seedlings from browsing rabbits and deer. All oaks provide excellent wildlife benefits. Grouse, wood ducks, quail, wild turkeys, blue jays, white-breasted nuthatches, thrushes, rufous-sided towhees, brown thrashers, red-headed and red-bellied woodpeckers, yellow-shafted flickers, grackles, black bears, raccoons, gray, fox, flying and red squirrels, deer, eastern chipmunks, white-footed mice and many other animals feast on acorns each fall. Oak trees also make good den trees for cavity-dwelling birds and mammals.



## 5. Other Deciduous Trees

### Green Ash

*Fraxinus pennsylvanica*

### White Ash

*Fraxinus americana*

### Black Ash

*Fraxinus nigra*

Zones 3 to 4

Fall and winter food



Ashes are fast-growing, moderately shade-tolerant trees found in hardwood stands statewide.

Growing up to 90 feet at maturity, they make great shade trees, especially on rich, moist soils. Plant black ash in floodplains in low, swampy sites; white ash in upland areas; green ash in either place. If you're planting green or white ash, avoid all cultivars.

Interestingly, ashes are either male or female trees and only the females produce seeds. It is difficult to tell the males from females when the trees are seedlings. Ash seeds are a preferred food of pine grosbeaks in winter; flocks alight on trees and strip the seed-wing off to get at the kernel inside. Ashes provide a supplementary source of nutrition for red foxes, snowshoe hares and opossums. Beavers and deer browse on tender twigs and stems. Porcupines will eat the bark.

### Big-Toothed Aspen

*Populus*

*grandidentata*

### Quaking Aspen

*Populus tremuloides*

Zones 1 to 4

Winter and spring food



Quaking and big-toothed aspen grow rapidly on average to dry soils statewide, though they are more common in the north. Aspen, also called poplar or popple, grows up to 60 feet and reaches maturity at 50 years, after which it rapidly declines and can make a good cavity

tree long before other hardwood trees. Avoid planting the alien weedy white or silver poplar (*Populus alba*) and the disease-prone Lombardy poplar (*Populus nigra italica*). Aspen is the favorite food of many animals, especially deer, grouse and beavers. Prairie chickens, sharp-tailed and ruffed grouse and northern finches feast on the resinous buds and catkins. White-tailed deer, snowshoe hares, porcupines and beavers browse on leaves and young stems. To regenerate aspen, clearcut an existing aspen stand—the trees are shade intolerant and regenerate very well by root sprouts. Aspen are short-lived and their soft, punky wood is used by woodpeckers and chickadees for nest cavities. The trunks and branches of aspen are important for beaver when building their dams and lodges. Do not plant aspen near prairies or savanna areas; the trees will spread and out-compete prairie vegetation. Excessive spread of aspen is best controlled by girdling.

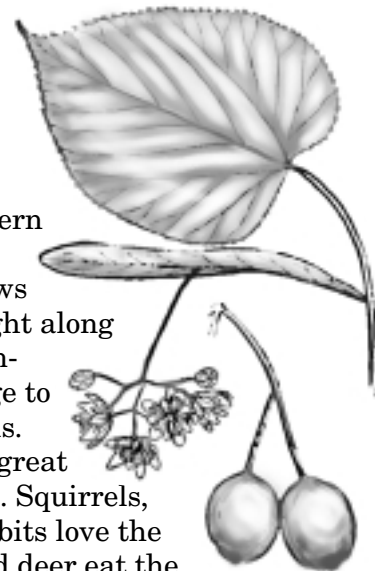
### Basswood

*Tilia americana*

Zones 3 to 5

Summer food

Basswood is a component of northern and southern hardwood stands. It grows up to 80 feet in height along well-drained bottomlands and in average to moist woodland soils. Basswood makes a great den tree for wildlife. Squirrels, chipmunks and rabbits love the nutlets. Rabbits and deer eat the leaves and tender twigs.



**Yellow Birch***Betula alleghaniensis***Paper Birch***Betula papyrifera***River Birch***Betula nigra*

Zones 3 to 4

Fall and winter food

Yellow birch, which grows on moist soil types in northern Wisconsin, reaches heights up to 85 feet. Paper birch, found statewide on better quality sand and gravel soils in association with pine and aspen, grows to 65–70 feet in height. Paper birch is planted widely for its attractive papery white bark, but it is susceptible to numerous diseases and such insects as the bronze birch borer. River birch, with its bronze papery bark, grows along the floodplains of the Mississippi and Wisconsin rivers and their tributaries. All birches provide good browse for white-tailed deer and moose. The shreddy bark provides nest material for vireos, warblers and tanagers. Ruffed and sharp-tailed grouse feed on the catkins, buds and seeds, while the pine siskin and common redpoll consume the seeds. Beavers, snowshoe hares and porcupines prefer to eat leaves and stems. Chickadees, titmice and several woodpeckers use dead or dying birch for nesting cavities.



American elm is found statewide in rich moist soils, especially in floodplains, but Dutch Elm disease has significantly reduced its numbers. New varieties of disease-resistant elms have been developed. Rock elm is also found throughout the state in rich upland woods. Avoid planting the alien, weedy Siberian elm (*Ulmus pumila*) and Chinese elm (*Ulmus parvifolia*). Elm buds and winged seeds are used by various songbirds, gamebirds and squirrels, especially since the seeds ripen early in spring, long before other seeds are available. Wild turkeys, ring-necked pheasants, bobwhite quail, sharp-tailed grouse, prairie chickens, wood ducks, and songbirds such as black-capped chickadees and purple finches favor the seeds and buds. Gray and fox squirrels eat the swollen buds in early spring. Beavers and cottontail rabbits consume the bark off of tender twigs. Baltimore orioles often select elms from which to weave their pendulous nests.

**American Elm***Ulmus americana***Slippery (Red) Elm***Ulmus rubra***Rock Elm***Ulmus thomasi*

Zone 3

Late winter and early spring food

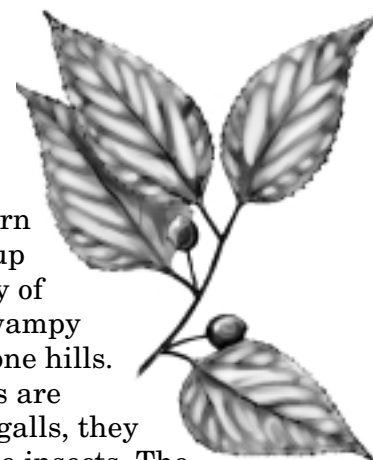
American and rock elm trees can reach 100 feet in height, while slippery elms generally only reach a height of 70 feet. Slippery elm is found statewide along streambanks and fertile hillsides, though it is rare in the north.

**Hackberry***Celtis occidentalis*

Zone 5

Fall and winter food

This native of southern Wisconsin can grow up to 75 feet on a variety of soils ranging from swampy floodplains to limestone hills. Although hackberries are susceptible to insect galls, they are not harmed by the insects. The hackberry fruit is a winter food source for cedar waxwings, yellow-bellied sapsuckers, brown thrashers, robins, finches and thrushes. Gray foxes, opossums and flying squirrels also eat the fruits.

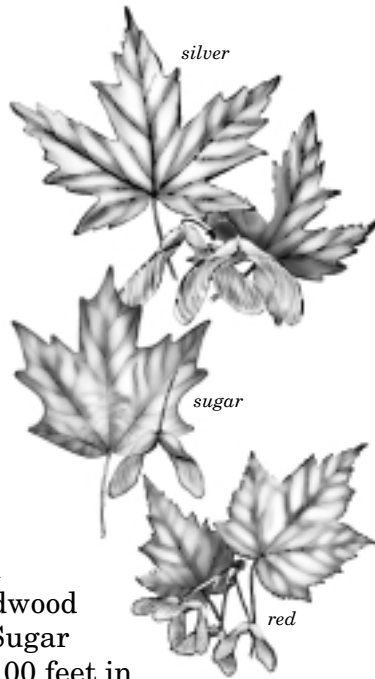


**Sugar Maple***Acer saccharum***Red Maple***Acer rubrum***Silver Maple***Acer saccharinum*

Zones 3 to 4

Spring and fall  
food

Sugar and red maples, noted for their stunning fall foliage and cooling shade, are common components of hardwood stands statewide. Sugar maple grows over 100 feet in height on fertile soils. Red maple, reaching up to 65 feet tall, can be found not only on fairly infertile, dry hillsides but also in low wet forests. Fast-growing, weak-wooded silver maples are found growing in floodplains and other moist soils in Wisconsin. They reach a maximum of 100 feet in height. Avoid planting the invasive, non-native Norway maple (*Acer platanoides*) and the alien Amur maple (*Acer ginnala*) and all cultivars. Sugar maple, also known as "hard maple," produces its winged "helicopter" seeds in summer and fall. Silver and red maple, referred to as "soft maples," bear their seeds in spring and early summer. Evening grosbeaks, pine grosbeaks, purple finches and red-breasted nuthatches eat the seeds, buds and flowers of the maple. Porcupines gnaw on the bark, while red, gray and fox squirrels and eastern chipmunks store and eat the winged seeds. Prairie warblers nest in 3–6 foot tall red maples. White-tailed deer browse heavily on twigs and leaves. Maples also make great, long-lived cavity trees.

**Boxelder***Acer negundo*

Zone 3 to 5

Summer food

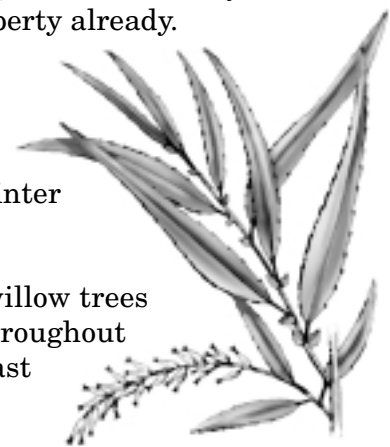
You'll find boxelder growing up to 50 feet high along fencerows and old farmsteads, primarily in southern Wisconsin's prairie savanna region as well as along floodplains. It is an ungainly tree with brittle branches. Female trees produce huge seed crops that mature in late summer and persist through winter. Evening grosbeaks, finches and other songbirds eat the seeds, buds and flowers of the boxelder. Deer and squirrels browse on its leaves. These trees also attract boxelder beetles that will often seek out the warmth in your house come fall; however, they are not harmful to the trees or your home. Boxelder's fast-growing, weak wood frequently forms cavities that make good dens for flying squirrels, gray and fox squirrels, raccoons and woodpeckers. Although boxelder has some good wildlife attracting qualities, we don't recommend planting this weedy, invasive tree if you don't have it on your property already.

**Willow***Salix* species

Zones 3 to 5

Summer browse–winter  
food

Many varieties of willow trees and shrubs grow throughout Wisconsin. These fast growers are often planted near water where they range in height from shrubs to tall trees. Most have very weak wood. The buds and twigs are eaten by grouse and deer, while grosbeaks eat just the buds. Beavers and snowshoe hares nibble on the bark, buds and twigs. Be aware that the familiar weeping willow (*Salix babylonica*) is not native to Wisconsin.





## 6. Evergreens

### Balsam Fir

*Abies balsamea*

Zone 3

Fall and winter food

A tree of northern forests, balsam fir prefers cool, moist, shady places out of reach of strong winds. Its soft needles and symmetrical shape make it a popular Christmas tree choice.

Mature trees reach 60 feet and are very long-lived, though they are susceptible to spruce bud worm and balsam woody aphid. Balsam fir stands make good cover for many birds and small mammals. Seeds are nibbled by the black-capped chickadees, red-breasted nuthatches, blue jays and red crossbills. Seeds, bark and wood are gnawed by red squirrels, voles, mice, snowshoe hares and eastern chipmunks. White-tailed deer, moose and spruce grouse also browse on the twigs of balsam fir.



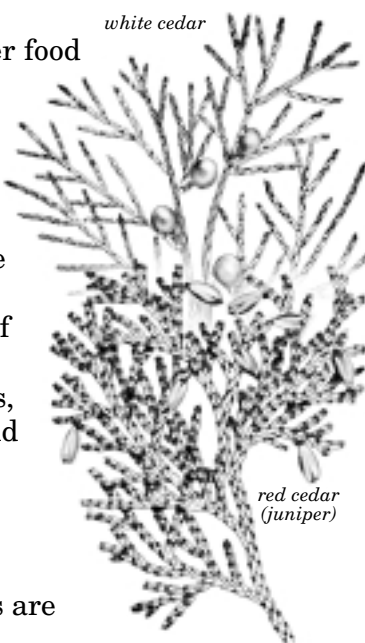
### Northern White Cedar or "Arbor Vitae"

*Thuja occidentalis*

Zone 3

Fall and early winter food

A popular deer food, white cedar grows in northern Wisconsin swamps where it forms dense stands. This tree is rare in other areas of the state unless planted. Pine siskins, common redpolls, and red squirrels eat the winged seeds of this long-lived tree that grows up to 60 feet. White cedar swamps are



critical overwinter habitat for deer in northern Wisconsin. Because white cedar is a favorite browse of deer, these mammals are preventing natural regeneration in many areas.

### Eastern Red Cedar

*Juniperus virginiana*

Zone 4

Fall, winter and spring food

Red cedar grows on dry, gravelly soils and rocky ledges in southwestern Wisconsin. It is also common in abandoned farm fields, fence-rows and along country roadsides. These evergreens reach up to 60 feet in height, forming dense cedar glades. Red cedar provides cover for the robin, chipping sparrow, junco and a variety of warblers. Cedar waxwings, evening and pine grosbeaks, purple finches, eastern chipmunks and white-footed mice prefer the bluish-black, berry-like fruit. Deer will eat twigs and leaves of red cedar. If planted as an ornamental, be aware that red cedar is an alternate host for cedar rust, which damages crabapple trees. Many ornamental varieties of cedar exist and should be avoided. Be aware that cedars can shade out prairie vegetation and any ground flora in yards, and will spread rapidly. They should be aggressively controlled in native prairie areas by cutting.

### Hemlock

*Tsuga canadensis*

Zone 4

Fall and winter food

A stately, tall tree, the hemlock occurs in the northern forests of Wisconsin. It prefers cool, moist, heavily-shaded less-disturbed forests with rich soils. Hemlock can reproduce under the shade of evergreen and hardwood forests, and at maturity can reach a height of 100 feet. Hemlock is a highly valued wildlife food. Deer prefer hemlock and will heavily



browse the branches and tips, seriously limiting the trees' growth and reproduction, especially of those trees located near deer wintering yards. Dense branches provide cover for ruffed grouse, white-tailed deer and warblers such as black-throated green warbler and blackburnian warbler. The slate-colored (dark-eyed) junco, goshawk, raven and other wildlife of northern Wisconsin find refuge amongst its boughs. Pine siskins, crossbills and boreal chickadees eat the seeds, while porcupines enjoy the bark, twigs and seeds.

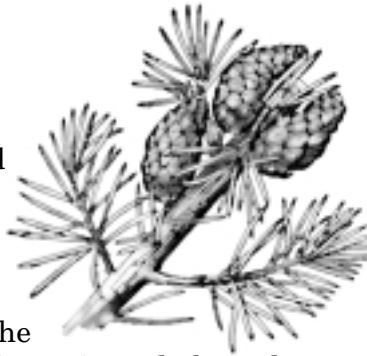
### Jack Pine

*Pinus banksiana*

Zones 3 to 5

Fall and winter food

This sun-loving conifer can be found growing on the sandy soils of the northern half of Wisconsin and along the Wisconsin River in the south. It can reach 70 feet in height at maturity. It requires fire to release seeds from the tightly closed cones. Jack pine makes great cover for songbirds, deer, rabbits and small mammals. The red squirrel, pine siskin and purple finch eat the seeds once released by fire.



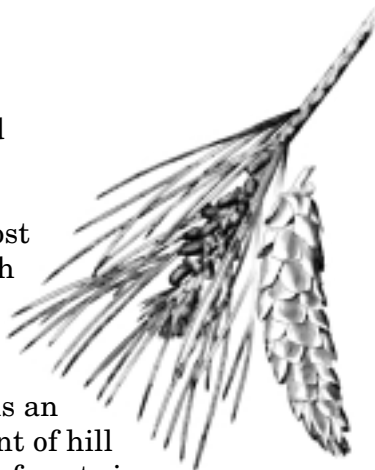
### White Pine

*Pinus strobus*

Zones 3 to 5

Fall and winter food

White pine grows statewide, but is most common in the north where majestic individuals can reach 150 feet in height. White pine is an important component of hill and rocky bluff pine forests in south central and southwest Wisconsin. It prefers fertile, well-drained soils, but can tolerate sandy soils. This fast-growing conifer is often planted as an ornamental



near houses, as well as planted in shelterbelts. Young pine stands provide good thermal cover during winter for deer and birds. Seeds are eaten by red squirrels, mice, chickadees, red-breasted nuthatches, woodpeckers, grosbeaks, pine warblers, brown creepers, pine siskins and crossbills. Deer and spruce grouse nibble the needles. Beavers and snowshoe hares consume the bark. Large white pines provide roosts for wild turkeys and ruffed grouse, and nesting sites for ospreys and eagles.

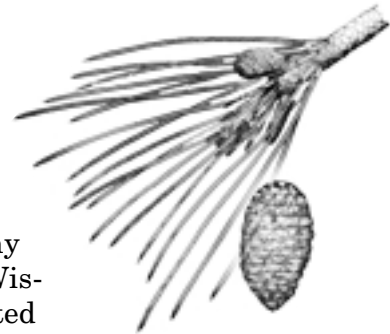
### Red Pine

*Pinus resinosa*

Zones 3 to 5

Fall and winter food

Red pine grows in pure stands in many parts of northern Wisconsin and in isolated stands as far south as Dane County. These conifers occasionally reach 120 feet in height, but are generally only 90 feet tall. Because of its general freedom from disease and insect attacks, red pine is frequently planted in pine plantations. Such plantations have little value to wildlife because of a lack of understory growth. Nevertheless, as a small conifer, these trees can provide thermal shelter to wildlife in winter. Seeds are eaten by red squirrels, mice, chickadees, red-breasted nuthatches, woodpeckers, grosbeaks, pine warblers, brown creepers, pine siskins and crossbills. Ospreys and eagles nest in large red pines.



**White Spruce***Picea glauca***Black Spruce***Picea mariana*

Zone 3

Fall and winter food

White spruce grows up to 80 feet high on moist well-drained soils in northern forests. It can also be found in mixed conifer-hardwood stands and balsam-tamarack swamps. It is an attractive evergreen, planted ornamentally statewide. This spruce is also planted for shelterbelts and plantations.

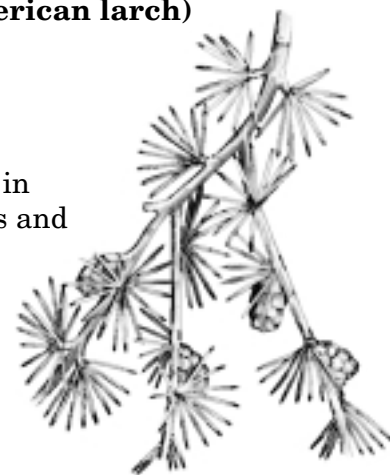
Black spruce grows only in wet northern forests, including bogs, and reaches up to 60 feet tall. It is often associated with tamarack, balsam fir and white spruce. Both spruces have dense branches, which they retain low to the ground. This provides some of the best winter cover for songbirds and rabbits, and nesting cover for songbirds in spring. Woodpeckers, chickadees, red-breasted nuthatches, grosbeaks, finches and crossbills glean the winged seed from the cones. Porcupines browse on twigs and bark. Woodpeckers, thrushes, kinglets, warblers and finches nest amidst the boughs. Spruce grouse and snowshoe hares feed heavily on the needles. As a last resort in hard winters, deer will browse on spruce twigs and needles.

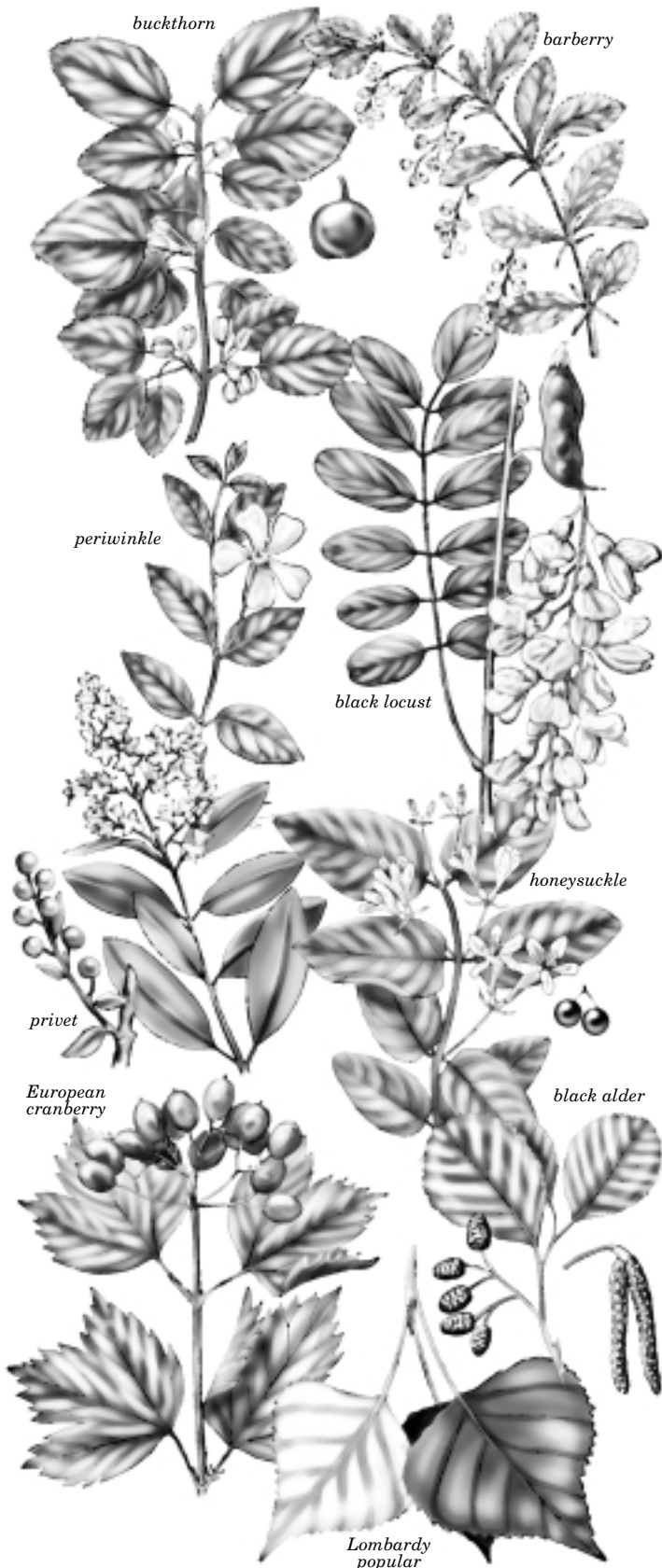
**Tamarack (American larch)***Larix laricina*

Zone 3 to 5

Fall food

Tamarack grows in northern swamps and in scattered southern lowlands that have wet soils. It will not do well if planted on upland sites. It is Wisconsin's only conifer that sheds its needles each fall, after the needles turn a bright golden color that stands out in stark contrast to neighboring spruces. Songbirds eat the seeds of the tamarack. This tree will not survive in upland areas.





## Plants to Avoid

The following plants and their cultivars have the potential to invade wild areas and out-compete native species, degrading habitats and causing extensive ecological damage.

### Trees

common buckthorn (*Rhamnus cathartica*)  
 glossy/columnar buckthorn (*Rhamnus frangula*)  
 European Mountain Ash (*Sorbus aucuparia*)  
 Amur maple (*Acer ginnala*)  
 Norway maple (*Acer platanoides*)  
 black locust (*Robinia pseudoacacia*)  
 Chinese elm (*Ulmus parviflora*)  
 Siberian elm (*Ulmus pumila*)  
 European or black alder (*Alnus glutinosa*)  
 white poplar (*Populus alba*)  
 Lombardy poplar (*Populus nigra italica*)

### Shrubs

all bush honeysuckles (*Lonicera tatarica*,  
*L. x bella*, *L. morrowii*, *L. aackii*)  
 Japanese barberry (*Berberis thunbergii*)  
 European barberry (*Berberis vulgaris*)  
 multiflora rose (*Rosa multiflora*)  
 European cranberry bush (*Viburnum opulus*)  
 common privet (*Ligustrum vulgare*)  
 burning bush/winged euonymus  
 (*Euonymus alatus*)  
 autumn olive (*Elaeagnus umbellata*)  
 Russian olive (*Elaeagnus angustifolia*)  
 smooth sumac (*Rhus glabra*)

### Vines

round-leaved bittersweet (*Celastrus orbiculatus*)  
 wintercreeper (*Euonymus fortunei*)  
 Japanese honeysuckle (*Lonicera japonica*)  
 porcelain berry (*Ampelopsis brevipedunculata*)  
 periwinkle (*Vinca minor*)  
 English ivy (*Hedera helix*)



## Planting Tips

### Seeds or Plants?

You can obtain wildlife trees, shrubs and vines for planting on your property in a number of ways. You can gather and plant wild seeds from one part of your property or your friend's property to your project site. Or you can purchase and plant wild seed from many nurseries. But you'll need to know whether or not the seeds require a period of dormancy, or if they need scarification or stratification. Your local nursery staff can help you with this information and with the techniques required, or you can find the information at your local library in books on propagation or landscaping with native plants. **Note: Gathering wild plant seeds**

**from public roadsides, parks, wildlife areas or any other public property is generally illegal without proper permission.**



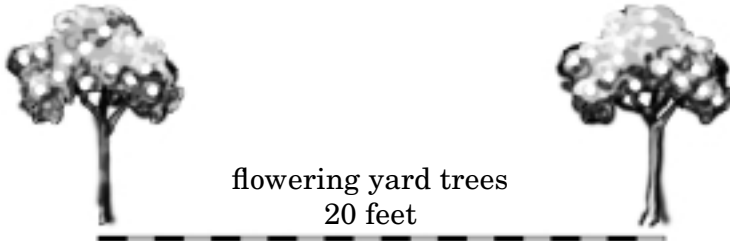
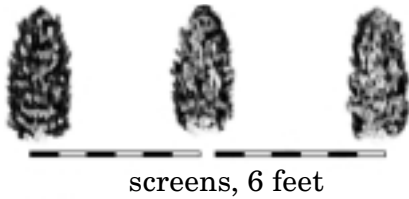
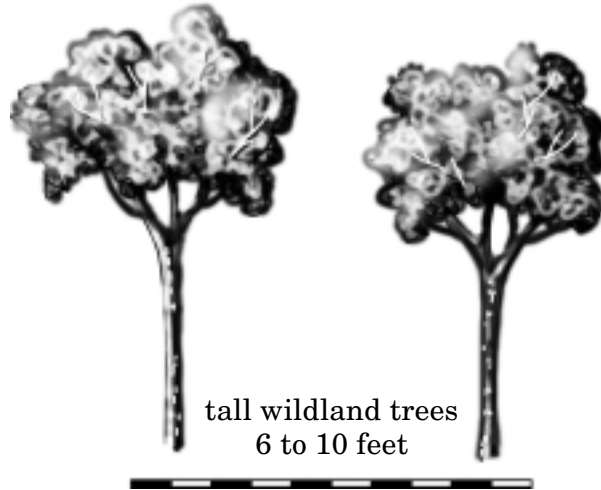
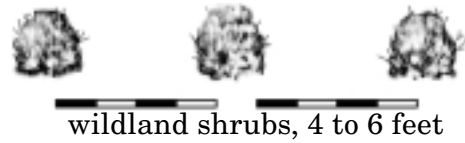
Another way of getting the plants you need for your wildlife project is to transplant wild trees, shrubs and vines from one part of your property or a friend's property to the area you are interested in enhancing. Dig these in early spring when the ground is workable, but before the plants break their dormancy. Transplanting can end in failure due to the disruption of the plant's established root system, so dig as large a root ball as you can carry. As a general rule, transplant survival will be more successful when done with smaller, younger plants. **Note: Any transplanting from public roadsides or other public lands is illegal.**

A more conventional route is to purchase young, bare root stock and plant these in early spring. DNR nurseries sell bare root native trees and shrubs in quantities of 500 seedlings per order. Other nurseries also sell bare root stock in large quantities. These are best for large-scale plantings.

Finally, if you just want to enhance the landscape around your house for wildlife, you can purchase potted trees and shrubs. These are much more expensive than bare root stock, but tend to be older and larger plants, so tradeoffs exist in cost, quantity and size of the plants. **Note: Make sure you purchase plants with the proper scientific name. Many cultivars and non-native plants are available at nurseries and these may cause problems on your land or the surrounding landscape. Read the labels and purchase with caution. Also be sure you are buying plants that were propagated rather than wild dug. Wild dug plants are often taken from wildlands where their removal degrades the area. They also may have decreased survival.**

**Spacing of Plantings**

Plants should be placed in groups with enough space to prevent severe competition among individuals. Consider the mature height and crown spread to prevent planting trees and shrubs too close to each other. As a rule of thumb, for agricultural shelterbelts or wildland clump plantings, space your shrubs about 4 to 6 feet from one another. For small trees such as crabapples and wild plums, space the trees about 6 to 8 feet apart from each other. For the taller trees, such as white spruce, plant the individual trees about 6 to 10 feet apart from each other. For landscaping projects around your house, you may want to provide a little more space so that the tree or shrub can reach its full form and shape. Nurseries suggest to plant small flowering trees about 20 feet apart and larger trees about 30 to 50 feet apart. However, trees used for screening as well as wildlife cover can be placed as close as 6 feet apart.



Also, keep shrubs about 8 to 10 feet from the house and large trees about 25 or 30 feet from the foundation. Otherwise, you could end up with severely cracked foundations as your tree grows.



large yard trees  
30-50 feet

**Know Your Soils and Sun**

Know the soils and soil moisture levels on your property. Match these with the types of soil and moisture levels preferred by the trees and shrubs you are considering purchasing or transplanting. For instance, don't order a shipment of bog-loving tamarack for planting on your hilltop. Likewise, don't plant white oaks in a low, wet meadow. Most commercially-available trees and shrubs prefer well-drained, loamy soils. However, more nurseries are beginning to carry native plants adapted to shallow, dry, sandy soils or to wetland soils.



Match the site's exposure to sunlight with the plant's needs. Generally, the more sunlight the site has, the better the flowering and fruit development of many trees and shrubs; hence, the better feeding opportunities for wildlife. However, some native trees and shrubs are adapted to grow best in shade. Know your plant's needs.

**Protect Your Investment**

You'll want to protect your investments. Since many of these wildlife trees and shrubs provide great browse for deer and rabbits, you can avoid future disappointment and frustration if you take an extra step when you're planting. Make small protective cages

using hardware cloth or chicken wire and wrap these around your newly-planted specimens, or use commercially-made tree guards. Make sure that you have done this before winter, a time when the browsers are most likely to damage your plants. A little extra effort now will protect your investment for years to come.



## **Wildlife Plantings in Agricultural Areas**

If you own a working farm, consider integrating wildlife plantings into your agricultural landscape. Try first to enhance existing cover, such as along fencerows, old windbreaks, edges of wetlands, or old groves.

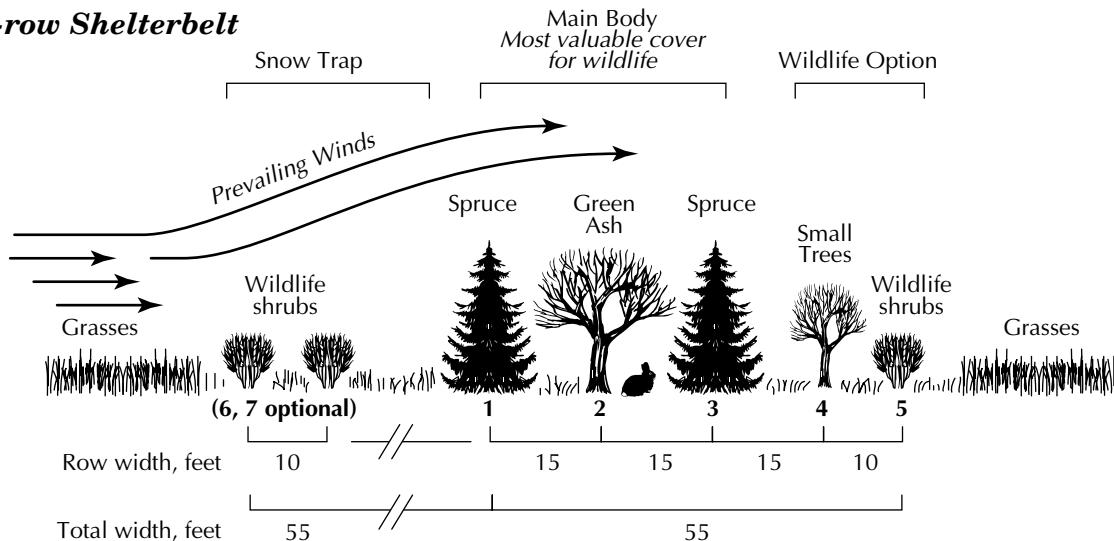
Plant your wildlife trees, shrubs, and vines near existing wildlife travel lanes or where good undisturbed nesting cover exists. If no wildlife travel lanes exist, create them between habitats or along fencerows. Plant your trees and shrubs to provide protection for wildlife from extreme exposure to mid-winter winds, as well as to protect songbirds and small mammals from roving farm cats, raccoons and other predators. Plant close to wetlands or food and watering areas to greatly enhance the diversity of wildlife. Plant some trees and shrubs within 100 yards of an existing field of grain, food plot or even corn stubble. This will provide easy access to food while reducing the exposure to severe winter weather. If an undisturbed pasture, field or grassland is located nearby, grassland birds will find secure nesting in spring and summer as well as a plentiful supply of insects.

If you are enhancing existing woody cover such as a fencerow or windbreak, be sure to

watch out for fast-growing “wolf” trees like boxelder or elm. These trees will out-compete your plantings for sun and nutrients in no time at all. Many Wisconsin deciduous trees and shrubs are prolific sprouters and in one year can grow 3–5 feet from cut stumps. Therefore, once you've cut unwanted trees and before you plant your new trees and shrubs, make certain that you treat all freshly-cut stumps with a recommended herbicide. Check with your local garden center or DNR Forester for recommendations, since the effectiveness of herbicides varies with the soil conditions. Always follow the herbicide label directions.

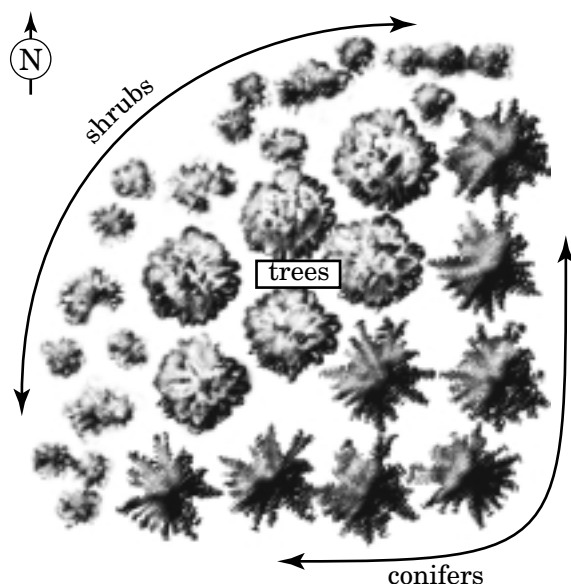
The arrangement of shrubs and trees in an agricultural wildlife planting can greatly affect its attractiveness to wildlife. Large-block naturalized plantings are a preferred design to long, thin, strip-like plantings. In snow country, add 1–2 rows of shrubs from the north and west side of the wildlife planting, about 35 feet from the interior trees and shrubs, to act as a trap for catching snow before it reaches the main body of the windbreak. This will increase the winter cover value of the windbreak and reduce tree damage from heavy snowloading. Plant the inner rows with a mix of small trees and tall conifers to provide shelter from weather. Plant these in staggered rows about 10–15 feet apart. It's advisable to plant one or two

### **Seven-row Shelterbelt**





### Clump planting for wildlife



more rows of shrubs on the downwind or protected side to provide resting and sunning areas, ground level shelter, seasonal food, and more diverse nesting habitat. Again, try to stagger these plants at odd intervals rather than planting them in a soldier-straight row. This will lend a more natural appearance to your landscape. By simply increasing the width of your agricultural wildlife planting, you can increase the nest density and nest success of wildlife living in the planting.

For more information on windbreaks for wildlife, read **Windbreaks that Work!** and **Woody Cover for Wildlife**. Both are available from your local DNR forester.

### Wildland Plantings

For those of you who own land not in agricultural production, consider working with your native landscape to enhance it for a wide diversity of wildlife.

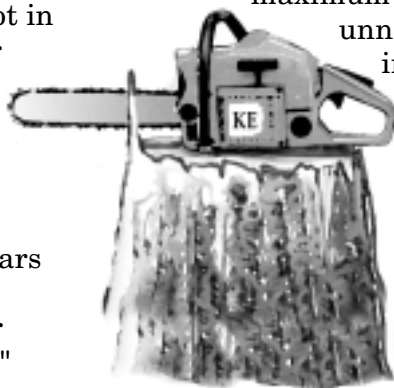
Often, this will mean getting out your axe, chain saw, pruning shears and herbicide sprayer before you even think about taking out your shovel. So many of our "wildland"

acres have been altered by the invasion of alien trees, shrubs and herbaceous plants that it is rare to find a site that is unaffected by these plants. One reason for the success of these aliens in capturing our native landscape is that they are very aggressive growers. They are adapted to living in disrupted soil. Since pioneer times, farming has caused the widespread breakup of the soil. Current human urban developments do the same. Also, some aliens tend to seed prolifically and their seeds are able to germinate under a wide variety of conditions. They are often rapid growers and soon out-compete the less aggressive, more beneficial native plants for the soil nutrients and sunlight they need to grow.

It is imperative, therefore, to tame, if not eradicate these aliens from your landscape. Get them out, if possible. They don't belong! Refer to **Invasive Species Control Recommendations**, available from the Bureau of Endangered Resources, WDNR, Madison, WI 53707-7921.

Once you have the aliens under control, then think about the types of native trees, shrubs and vines that normally would grow there. Consult with local DNR wildlife managers, foresters or park naturalists for assistance with this. Then, using this publication as a guide, select some of native plants that provide food and winter or nesting cover. Plant these in locations best suited to their needs. And definitely plant them as though they grew there naturally. Avoid straight rows. You can clump some shrubs for

maximum cover benefits, but don't make it unnatural in appearance. Also, keep in mind the mature height and crown-width of any tree seedlings you are planting. Try not to crowd them too closely or they will not grow well as they get older.



## ***Wildlife Plantings in Your Backyard***

When planting wildlife trees, shrubs and vines in your yard, you can lay out your plan in one of two ways: you can choose a very formal garden design, in which you place your plants in regimented rows that follow your property lines; or you can decide to lay out your plan in a very naturalistic design, with no straight rows but plenty of curving lines, clumps and uneven distribution of your plants. Although the aesthetics of the two designs vary with your personal taste, the wildlife benefits are similar for both designs.

Much interest and excitement in native landscaping is spreading throughout Wisconsin. Groups such as Wild Ones—Natural Landscapers, Ltd., P.O. Box 23576, Milwaukee WI 53223-0576, can offer you advice, assistance and inspiration in planning your native, naturalistic backyard landscape. Keep in mind, however, that some Wisconsin communities have "weed ordinances" that insist homeowners maintain their lawns at a given height. This is a greater concern when landscaping with prairie grasses and flowers than it is when planting trees and shrubs.

Since you are planting for wildlife, you can also plant with a mind for energy conservation as well. For instance, you may want to plant clumps of evergreens in the northwest corner of your property to shelter your house from winter winds. Plant deciduous trees to the south of your house so that in summer these trees will provide shade, while in winter the sun's rays can shine through the barren branches.

For maximum enjoyment of your labors, plant tall trees around the periphery of your yard. Place shrubs in front of the trees and plant flowers and ground cover in front of the shrubs. In this way you can view all the plantings while standing in the inner sanctum of your yard.

## ***Get Some Help***

Protecting newly planted seedlings from competition with aggressive, undesirable plants is the single most important thing you can do to protect your investment and to protect your plantings for wildlife. Weeds, grasses, and woody cover can soon overtake your plantings if you do not prepare the site properly. However, each planting situation is different. A large, native woodland restoration will be different from planting a shelterbelt, which in turn will be different from planting a backyard landscape. In some situations you can control for competition by simply mowing. In other situations, you may need to use an herbicide specific for your plantings and your soil conditions. Project requirements will vary across the state. You will need site-specific information about how to prepare your site for your planting project, what techniques (mowing, herbicides, controlled burns) to use to control competitive plants and how best to protect your plantings. Contact your local DNR forester or wildlife manager for specific advice; refer to **Getting the Help You Need** in this publication series.

## ***Planting***

Tree-planting time in Wisconsin begins in April. Wait until after the frost has left the ground, usually in late March, but plant before the buds break out and shoots grow long, usually in late May.

If you're only planting a few trees or shrubs, plant them by hand using a spade, #2 round shovel, or planting bar (dibble). For large plots, contact your local DNR forester or County Land Conservation Department (LCD) for recommendations about tree planting services. In Wisconsin, tree planting machines are available for a small rental fee from most county LCDs and are coordinated by your local DNR forester.

## ***Planting Bare Root Stock***

For bare root seedling trees and shrubs, cull out the weak seedlings that are scraggly, wilted, discolored and have thin stems. Inspect the roots before planting. Using sharp hand pruners, clip any broken or crushed roots; this will help them regenerate more quickly.

Be aware that bare root seedlings are very sensitive to handling, warm temperatures, and can quickly dry out. Arrange to plant your seedlings as soon as you get them to insure minimal damage and maximum growth potential. If you can't plant your trees and shrubs immediately, keep them temporarily in a cool, shaded storage place such as a cellar at about 35° F.

If you must wait more than a week to plant your trees or shrubs, then you should temporarily "heel in" the trees. To do this, dig a "checkmark" trench, as illustrated below. Dig it deep enough to hold all roots. Then lay the tree or shrub into the trench with the trunk or plant tops leaning at about a 45° angle. Gently spread the roots out into the trench and cover them completely with light soil. Water the soil thoroughly to make sure there are no air pockets.

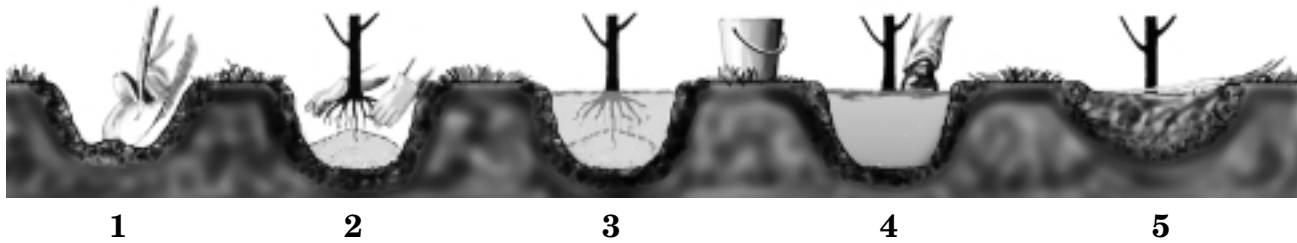
Otherwise, once you have your bare root stock and are ready to plant, keep the fragile, hair-like seedling roots covered with the bag to protect them, unless the temperatures reach 60° F or more. If this occurs, take off the bag, cool the roots with cold water and replace the bag again. As you plant, keep all roots moist by covering them with a damp burlap sack in a bucket to prevent the roots from being exposed to the drying air. Do not immerse roots in water, unless the nursery directions tell you differently.

For planting bare root stock by hand on a large scale, place one or two dozen plants in a large bucket with a damp burlap sack covering the roots. Keep excess stock in a cool, damp place until you have planted the first batch. Then take a shovel or a planting dibble and walk through your project area. Everywhere you want to place a tree, dig the shovel blade or dibble into the soil and briskly move the handle back and forth, creating a slot wide and deep enough so that you can spread the roots out well; for seedlings, this is about the width and depth of a shovel blade.

Set the plant at the same level or up to one inch deeper than the soil line at the nursery. Don't simply stick the seedling in the hole and cover it up. Rather, gently spread the roots out. Be sure to keep them from curling or bending. Pack the soil so there is no air space around the roots. Tamp down the soil with your foot to form a slight depression around the base of the tree to catch water.

If possible, water your plants well at the time of planting. If you can't because the site is so remote, don't worry. Spring rains usually provide all the moisture necessary for making wildland plantings a success.



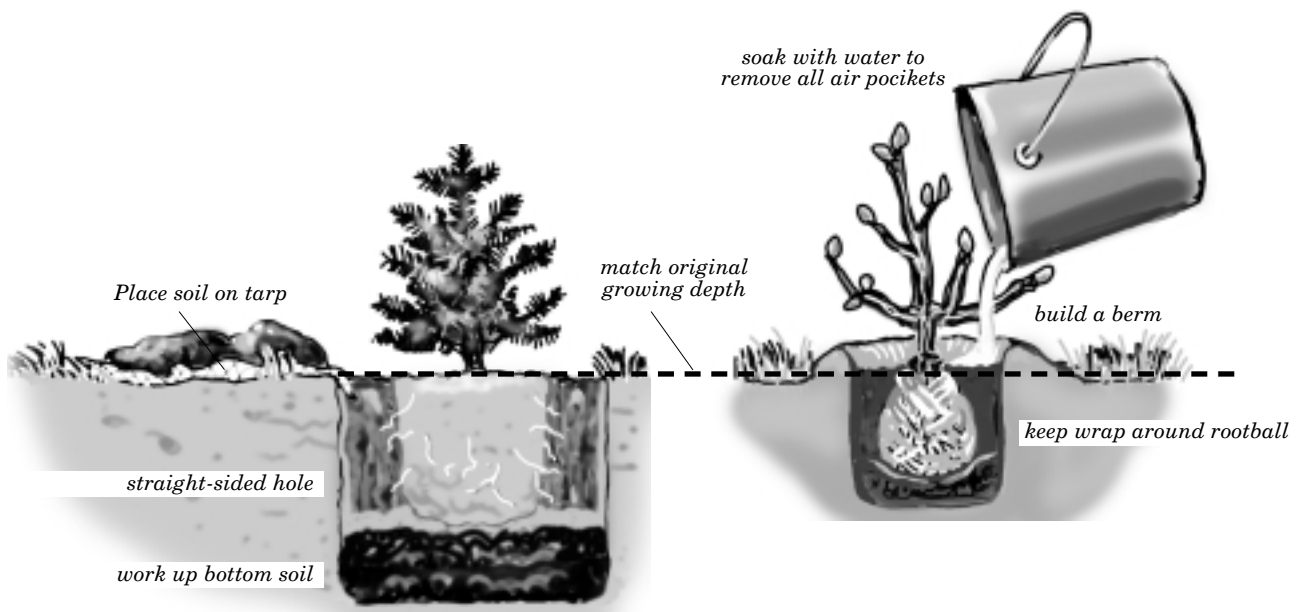


If you are planting bare root stock on a smaller scale, take greater care planting.

1. Remove all packaging material before planting. Inspect and prune all broken or crushed roots. Place a large piece of plastic on the lawn next to where you plan to dig the hole. Deposit the soil from the hole onto the plastic. As you dig, place the sod to one side, separate from the soil. Dig a hole about twice as wide and deep as the plant roots. Mix the soil with peat moss, composted manure or potting soil.
2. Place some of this mixture at the bottom of the hole, forming a mound of earth. Do not add any commercial fertilizer to this soil. Now, spread the roots down over the mound.
3. Trees should be set so that the mound pushes the trees up to the same depth at which they were planted in the nurseries. Shrubs should be set at either the same depth or slightly deeper than they grew in the nursery. Cover the roots and fill the hole about half-way up.
4. Tramp the soil down firmly with your foot and fill the hole with water to eliminate any air pockets.
5. After the water has soaked in, add the remaining soil to within 3 inches of the top. Tramp down this soil firmly to form a saucer-like depression and fill with water to settle the soil.

Mulch with compost, bark or straw. If properly mulched, you should only need to water your plants once a week for the first few weeks after planting and then every couple of weeks—or more frequently in hot, dry weather.

To promote rapid, healthy, vigorous growth, trim the crown. Leave the central trunk or leaders intact to ensure a high crown, but trim the side branches back by about one third. Prune damaged branches below the point of injury. This may seem a harsh measure to take, but you will be rewarded with rapid re-growth.



## ***Planting Container-Grown Stock***

For small scale backyard plantings, you may find excellent nursery specimens that are container-grown. This method allows for the development of a fairly large root system that has never been pruned or cut back. When planting potted trees and shrubs, it is very important to take time creating a top-quality hole. Here's how:

Place a large piece of plastic on the lawn next to where you plan to dig the hole. Deposit the soil from the hole onto the plastic. As you dig, place the sod to one side, separate from the soil.

Dig a hole twice the diameter of the container and deep enough to place the plant at the original growing depth. Make the sides straight, not sloped. Use either a yard stick or the container itself to check for proper depth and width as you dig. Make sure you work up the bottom of the hole with a shovel or garden fork.

Carefully remove the plant from the container. Inspect the root ball. If the roots are extensive and wind around in the pot, you may want to gently prune them back. Place the root ball in the hole. The top of the soil clinging to the plant (or the original soil mark) should be level with the soil in your yard.

Mix the soil on the plastic with peat moss, composted manure or potting soil. Backfill the hole with this mix.

Water the hole slowly and thoroughly to help settle the soil, eliminate air pockets and provide water to the plant.

Form a berm around the hole, using the soil mix. This will help contain the water each time you water your plant.

For container-grown plants, you only need to prune to achieve the desired shape since the root system has never been pruned or cut back.

## ***Planting Balled and Burlapped Stock***

Many larger trees and some shrubs are sold by nurseries balled in burlap. When you transport these from the store to your vehicle and then to your planting site, always carry the plants by the root ball—never by the trunk.

As with the container-grown plants, dig a hole twice the diameter of the root ball and deep enough to place the plant at the original growing depth. Create straight, unsloped sides.

Place the plant in the hole with the burlap still wrapped around the root ball. Be sure to remove any wire or nylon cord from around the trunk or the ball.

Mix the soil with peat moss, composted manure or potting soil. Backfill the hole with this planting mix while plunging the hose to the bottom of the hole to soak and settle the soil, working out any air pockets. Form a berm around the hole with the soil mix to aid in watering.



*Stake carefully to protect bark*

Stake and tie large trees to prevent wind from causing the tree to lean. Protect the tree bark from chafing by inserting the guy wires through pieces of old hose. Set this protective hose where the trunk touches the wire and anchor the wires to wood or metal stakes.

As with bare root plants, prune off one third of the side branches to help balance top growth and the root system.

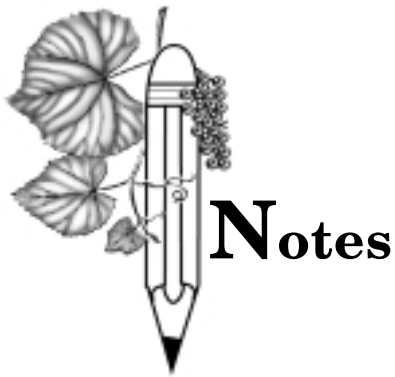
## ***Weed Control***

During the first few years, tree survival depends on controlling weeds, especially alien grasses, which compete with the growing tree for moisture and soil nutrients. Cultivate, hand mulch, manually pull or mow weeds around your seedlings or transplants. Within a few years, the newly planted area is often subject to invaders such as willow, elm, boxelder, honeysuckle, and buckthorn. Remove these undesirable trees and shrubs at the seedling stage with a sharp grub hoe. If you use an herbicide, follow label directions, make sure it is environmentally-safe, and use it sparingly. Contact your local DNR forester or wildlife managers for specific recommendations.

Armed with this knowledge of how and what to plant, you are well on your way toward making your property attractive to wildlife. Happy digging!



# Notes



# Notes



Printed On  
Recycled Paper



*Wildlife and Your Land* Staff: Mary Kay Salwey, Project Director; Janet L. Hutchens, Project Assistant; Todd L. Peterson, Bureau of Wildlife Management; Kelly Kearns, Bureau of Endangered Resources and Trent Marty, Bureau of Forestry. Graphics and layout: Kandis Elliot. Published by the Bureau of Wildlife Management, Wisconsin Department of Natural Resources, P.O. Box 7921, Madison, WI, 53707.



Federal Aid Project  
funded by your purchase of  
hunting equipment

PUBL-WM-223-98