

## WHY ARE TREE AND SHRUB PLANTINGS USED FOR WILDLIFE HABITAT?

Trees and shrubs can provide many benefits for a variety of wildlife species. In order to achieve true success, it is critical that the planting is properly designed with suitable species of plants and successfully established in the proper location. Many species of wildlife depend on trees and shrubs to provide food throughout the year, as well as cover for nesting, roosting and protection from predators and severe weather. Trees and shrubs are often planted along areas of other habitat such as fence rows, ditches and streams, windbreaks, along hayfields and pastures, or even around backyards and subdivisions. In reforestation projects, planting plans usually include some plants that are selected for their wildlife benefits. Tree and shrub plantings for wildlife are often an attractive addition to the landscape with flowering shrubs and colorful fruits that attract birds and animals that people enjoy.

## PLANNING

The first step is to evaluate the habitat needs for the wildlife species, or group of species you hope to benefit. You may have already identified the approximate location or general area available for a wildlife habitat planting. Determine how trees and shrubs can provide the food and different kinds of cover needed by the wildlife species you desire to attract to this area. What time of year is food in short supply for wildlife? What type of cover is needed during different seasons of the year? Are the animals moving through the area and if so, what type of cover is needed during that period? Consult with a wildlife biologist to learn about the life history requirements for the wildlife species that interest you. Learn how tree and shrub plantings may help wildlife in your area.

Shrubs can be planted as part of a windbreak, along a fencerow, travel lanes, or the edges of mature woodlands or other tree plantings. Shrubs can add to the wildlife habitat value of all these areas by increasing the amount and variety of food and providing dense cover near the ground.



Photo by NRCS

Another consideration when planning tree and shrub plantings for wildlife is the selection of appropriate plant species for a planting site. Each plant species has particular site requirements necessary for good growth and productivity. The plant must be adapted to conditions of the site--drainage, soil and exposure to the sun. Table 1 lists tree and shrub species often suggested for use in wildlife habitat plantings. Included in Table 1 are site adaptation requirements, average height that each species can be expected to reach, the season of the year that the fruit or nut matures and comments on wildlife uses of the plant species. Using this data will help you select plants adapted to the planting site, are the desired size to fit the site, and provide the needed wildlife food and/or cover.

Establishing a variety of plant species will increase the types of food available at different times of the year and increase the number of places for foraging and nesting. Using a variety of plants will also help protect the planting from failure to produce food and cover due to poor weather or diseases.

For planning criteria pertaining to width, length, number of rows and spacing see criteria in the Conservation Planning Standard (Field Office Technical Guide) for the practice that is being planned.

## ESTABLISHMENT

Follow NRCS Conservation Practice Standard Tree/shrub Establishment (612) for planting specifications and use NRCS Tree/Shrub Establishment Job Sheet for the development of site specific plans

**Table 1 – Suggested Tree and Shrub Species for Wildlife Habitat Plantings**

**SHRUBS**

<b>SPECIES</b>	<b>Site Adaptation*</b>	<b>Ave. Mat. Height (Ft.)</b>	<b>Month of fruit</b>	<b>Comments</b> (Naturally occurring range statewide unless noted)
Alder, hazel <a href="#">Alnus serrulata</a>	VPD – WD FS – PS	12	9-10	Prefers wet to moist soils. Seeds persistent and eaten by songbirds, forms dense cover. Nitrogen fixer. (S 1/3)
Arrowwood <a href="#">Viburnum dentatum</a>	SPD – WD FS - PS	6	8-11	¼” bluish-black drupe. Erect branches. Fruits persist into winter, eaten by many species. (S ½)
Blackberry, wild <a href="#">Rubus allegheniensis</a>	MWD–WD FS - PS	6	7-9	Upright arching shrub with stout prickles. Provides cover and food for birds and mammals. Recommended for quail.
Buttonbush <a href="#">Cephalanthus occidentalis</a>	VPD – WD FS - PS	12	9-11	Best on wet sites. Wilted leaves may be toxic to livestock.
Chokeberry, black <a href="#">Aronia melanocarpa</a>	SPD – WD FS – PS	6	8-11	1/3” dark-purple fruit eaten by birds. (N ¼)
Chokecherry <a href="#">Prunus virginiana</a>	SPD – WD FS – PS	20	7-9	Grows in a wide variety of sites. 1/3” red becoming black edible fruit eaten by many species
Crabapple, prairie <a href="#">Malus ioensis</a>	SPD – WD FS	25	9-10	Showy white flowers. Fruit 1.5 inches across. Susceptible to cedar apple rust. Used by many species of wildlife.
Crabapple, wild sweet <a href="#">Malus coronaria</a>	SPD – ED FS	25	9-10	Yellow-green, 1 inch across, edible fruit with highly fragrant flowers. Recommended for quail.
Cranberry, Am. highbush <a href="#">Viburnum opulus</a>	VPD – WD FS - PS	12	8- 9	Tart red edible fruits. Eaten by grouse, pheasant and songbirds. Showy. (N ½)
Dogwood, alternatleaf <a href="#">Cornus alternifolia</a>	SPD – WD FS - PS	18	7-9	Blue-black fruit with red stems on fruit. Fruit eaten by birds. Twigs browsed by deer and rabbits.
Dogwood, flowering <a href="#">Cornus florida</a>	MWD –WD FS - PS	30	9-10	Showy flowers, glossy red drupe. Recommended for quail. (S ½)
Dogwood, gray <a href="#">Cornus racemosa</a>	SPD – WD FS	8	9-10	Red pedicles in winter, white drupe eaten by birds.
Dogwood, redosier <a href="#">Cornus sericea</a>	VPD – WD FS	10	8-10	Reddish stem, white drupe, good winter color. Fruit sought by songbirds, grouse, and quail. Twigs browsed by deer, rabbits. (N ½)
Dogwood, roughleaf <a href="#">Cornus drummondii</a>	PD – WD FS – PS	15	8-10	White drupes. Fruit eaten by several songbirds, grouse, quail, turkey and pheasant. Browsed by rabbits and deer. (S ¾)
Dogwood, silky <a href="#">Cornus obliqua</a>	VPD – WD FS - PS	10	8-10	Blue fruit eaten by birds, likes moist soils and partial shade. Browsed by rabbits and deer.
Elderberry <a href="#">Sambucus nigra</a>	VPD – WD FS - PS	9	7-9	Purple-black edible drupe. Fruits eaten by many birds including pheasant, quail, dove and turkey.
Haw, black <a href="#">Viburnum prunifolium</a>	SPD – WD FS - PS	15	8-10	½ “ long blue black edible drupe, eaten by song birds, quail, and fox.
Haw, red <a href="#">Crataegus mollis</a>	PD - MWD FS	30	9	Fruit consumed by a number of birds and mammals. Nesting site for many birds.
Haw, rusty <a href="#">Viburnum rufidulum</a>	PD - MWD FS-PS	25	7-9	Many species of birds and mammals utilize the fruits. Leaves twigs and bark used by mammals. (S ½)
Hawthorn, cockspur <a href="#">Crataegus crus-galli</a>	PD - MWD FS	25	8-12	Variety of wildlife use flowers, leaves and fruits. Excellent nesting habitat for songbirds.
Hawthorn, Washington <a href="#">Crataegus phaenopyrum</a>	SPD – ED FS	30	9-12	Red fruit that lasts into winter and attracts many birds. Also fed on by deer, fox, rabbit, and pheasant. Nesting habitat for songbirds.

\*Site Adaptation Key:

ED= Excessively Drained	WD = Well Drained	MWD = Moderately Well Drained	SPD = Somewhat Poorly Drained
PD = Poorly Drained	VPD = Very Poorly Drained	FS = Full Sun	PS = Partial Shade

**Table 1 – Suggested Tree and Shrub Species for Wildlife Habitat Plantings (Con't)**

**SHRUBS (Continued)**

<b>SPECIES</b>	<b>Site Adaptation*</b>	<b>Ave. Mat. Height (Ft.)</b>	<b>Month of fruit</b>	<b>Comments (Naturally occurring range statewide unless noted)</b>
Hazelnut, American <a href="#">Corylus americana</a>	MWD–WD FS – PS	15	7-8	Often forms large colonies. Small edible nut, eaten by squirrels, deer, jays, grouse, quail and pheasant.
Nannyberry <a href="#">Viburnum lentago</a>	SPD – WD FS - PS	20	7-9	Blue-black fruits similar to raisins, eaten by birds and mammals. Provides cover and nest sites. (N ½)
Ninebark <a href="#">Physocarpus opulifolius</a>	VPD – WD FS - PS	10	5-7	Fruit are small dry bladders lasting through winter. White to pinkish flowers.
Pawpaw <a href="#">Asimina triloba</a>	SPD – WD PS	30	9-11	Large leaves, likes deep moist soils. Edible fruit. Eaten by opossum, squirrels, raccoon and fox. (S ½)
Plum, American <a href="#">Prunus americana</a>	MWD – ED FS	20	8-10	Reddish edible drupe recommended for quail, and mammals.
Raspberry, wild <a href="#">Rubus idaeus</a>	MWD –WD FS - PS	5	7-9	Arching shrub with strong hooked prickles. Provides cover and food for birds and mammals.
Redbud, Eastern <a href="#">Cercis canadensis</a>	MW – WD FS – PS	30	9-10	A legume, pod 2-3" long, reddish-purple flowers, heart shaped leaves. Seeds eaten by a few songbirds. (S ½)
Serviceberry or shadbush <a href="#">Amelanchier arborea</a>	MW – WD FS	30	6 - 8	Berry-like pome, green turning red to black eaten by birds and small mammals.
Spicebush <a href="#">Lindera benzoin</a>	VPD – WD FS - PS	9	7- 8	Small red drupe that is edible. Twigs and fruit eaten by songbirds, deer, rabbit, opossum, quail and grouse. (S ½)
Sumac, smooth <a href="#">Rhus glabra</a>	MWD – ED FS	12	8-9	Often forms large colonies. Reddish fruit eaten by some songbirds, quail, dove, and pheasant. Twigs browsed by rabbits and deer.
Sumac, staghorn <a href="#">Rhus hirta</a>	MWD – ED FS	15	8-9	Tolerates dry, infertile soils. Reddish fruit eaten by some songbirds, quail, dove, pheasant. Twigs browsed by rabbits and deer.
Tea, New Jersey <a href="#">Ceanothus americanus</a>	WD – ED FS	3	9	Prairie plant with white flower in dense heads. Quail and wild turkey eat the three-celled capsule.
Witchhazel, American <a href="#">Hamamelis virginiana</a>	SPD – WD FS - PS	18	9-11	Pale yellow flowers that produce pods with seeds. Seeds, buds and twigs eaten by deer, rabbit, quail and pheasant.

**PINE/SOFTWOOD TREES**

<b>SPECIES</b>	<b>Site Adaptation*</b>	<b>Ave. Mat. Height (Ft.)</b>	<b>Month of fruit</b>	<b>Comments (Naturally occurring range statewide unless noted)</b>
Baldcypress <a href="#">Taxodium distichum</a>	WPD-WD FS	80	8-9	Waterfowl occasionally consume seeds. Trees serve as perching areas for song and wading birds. (S 1/5)
Cedar, Northern white <a href="#">Thuja occidentalis</a>	PD-WD FS-PS	40	8-9	Sometimes browsed by deer. Provides winter cover near the ground. (NE ¼)
Pine, Eastern white <a href="#">Pinus strobus</a>	MWD-WD FS	90	8-9	Seeds eaten by wide variety of birds, squirrels and mice. Browsed by deer. Provides roosting site for many species of birds. (N ¼)

\*Site Adaptation Key:

ED= Excessively Drained	WD = Well Drained	MWD = Moderately Well Drained	SPD = Somewhat Poorly Drained
PD = Poorly Drained	VPD = Very Poorly Drained	FS = Full Sun	PS = Partial Shade

**Table 1 – Suggested Tree and Shrub Species for Wildlife Habitat Plantings (Con't)**

**HARD MAST PRODUCING TREES**

<b>SPECIES</b>	<b>Site Adaptation*</b>	<b>Ave. Mat. Height (Ft.)</b>	<b>Month of fruit</b>	<b>Comments</b> (Naturally occurring range statewide unless noted)
Beech, American <a href="#">Fagus grandifolia</a>	MWD – WD FS - PS	75	9-11	Nuts consumed by turkeys, deer and squirrels. Extremely shade tolerant species with decorative smooth gray bark. (S ½ ; E border)
Butternut <a href="#">Juglans cinerea</a>	MWD-WD FS - PS	50	9-10	Elliptical nut consumed by squirrels. Do not plant if butternut canker disease is in the area.
Hickory, mockernut <a href="#">Carya alba</a>	ED-MWD FS - PS	50	9-10	Nuts are a major food source for squirrels and used by deer and turkey. (S ¾)
Hickory, pignut <a href="#">Carya glabra</a>	WD-ED FS - PS	50	9-10	Nuts are a major food source for squirrels and used by deer and turkey. (S ½)
Hickory, shagbark <a href="#">Carya ovata</a>	MWD - WD FS - PS	90	9-10	Nuts are a major food source for squirrels and used by deer and turkey. The loose shaggy bark makes good roosting sites for bats.
Hickory, shellbark <a href="#">Carya laciniosa</a>	PD - MWD FS - PS	70	9-10	Nuts used by wood duck, squirrels, deer and turkey. The loose shaggy bark makes good roosting sites for bats. (S 2/3)
Oak, black <a href="#">Quercus velutina</a>	NWD-ED FS	60	9-11	Acorns are eaten by squirrels, blue jays, crows, red-headed woodpeckers, deer, turkey, quail, mice, chipmunks, ducks and raccoons.
Oak, bur <a href="#">Quercus macrocarpa</a>	PD - WD FS	80	8-11	Acorns are eaten by squirrels, blue jays, crows, red-headed woodpeckers, deer, turkey, quail, mice, chipmunks, ducks and raccoons.
Oak, cherrybark <a href="#">Quercus, pagoda</a>	SPD – WD FS	75	9-11	Large tree of bottomlands and well-drained soils.. Acorns eaten by many species of wildlife. (S 1/6)
Oak, chinquapin <a href="#">Quercus muehlenbergii</a>	MWD – WD FS	80	9-11	Acorns small in size making them useful to many species of small mammals and birds, as well as wild turkey and deer.
Oak, northern red <a href="#">Quercus rubra</a>	MWD - WD FS	100	9-11	Acorns are eaten by squirrels, blue jays, crows, red-headed woodpeckers, deer, turkey, quail, mice, chipmunks, ducks and raccoons.
Oak, pin <a href="#">Quercus palustris</a>	VPD -MWD FS	75	9-12	Acorns are eaten by squirrels, blue jays, crows, red-headed woodpeckers, deer, turkey, quail, mice, chipmunks, ducks and raccoons.
Oak, scarlet <a href="#">Quercus coccinea</a>	MWD-ED FS	70	9-11	Medium-sized tree of dry ridges. Brilliant scarlet leave in fall. Acorns eaten by many species of wildlife. (S 1/3)
Oak, shingle <a href="#">Quercus imbricaria</a>	SPD-WD FS	50	9-11	Medium-sized tree of dry ridges. Brilliant scarlet leaves in fall. Small acorns eaten by many species of wildlife.
Oak, shumard <a href="#">Quercus shumardii</a>	SPD-WD FS	75	9-11	Large-sized tree of well drained soils and bottomlands. Acorns eaten by many species of wildlife. (S 2/5)
Oak, swamp chestnut <a href="#">Quercus michauxii</a>	SPD-WD FS	70	9-11	Medium to large-sized tree most often found on well drained bottomland. Acorns eaten by many species of wildlife. (S 1/3)
Oak, swamp white <a href="#">Quercus bicolor</a>	VPD-WD FS	70	8-10	Medium-sized tree of poorly drained soils. Acorns have less tannic acid then red and black oaks so white oak acorns are preferred by wildlife.
Oak, white <a href="#">Quercus alba</a>	MWD - WD FS	100	9-11	Acorns are eaten by squirrels, blue jays, crows, red-headed woodpeckers, deer, turkey, quail, mice, chipmunks, ducks and raccoons. Acorns of white oak have less tannic acid then red and black oaks so white oak acorns are preferred by wildlife.
Pecan <a href="#">Carya illinoensis</a>	MWD-WD FS	80	9-10	Large tree with sweet edible nut eaten by many species of wildlife.
Walnut, Black <a href="#">Juglans nigra</a>	MWD-WD FS	80	9-10	Nuts eaten by squirrels.

\*Site Adaptation Key:

ED= Excessively Drained	WD = Well Drained	MWD = Moderately Well Drained	SPD = Somewhat Poorly Drained
PD = Poorly Drained	VPD = Very Poorly Drained	FS = Full Sun	PS = Partial Shade

**Table 1 – Suggested Tree and Shrub Species for Wildlife Habitat Plantings (Con't)**

**SOFT MAST PRODUCING TREES**

<b>SPECIES</b>	<b>Site Adaptation*</b>	<b>Ave. Mat. Height (Ft.)</b>	<b>Month of fruit</b>	<b>Comments</b> (Naturally occurring range statewide unless noted)
Persimmon <a href="#">Diospyros virginiana</a>	MWD-SPD FS - PS	50	9-11	Fruit is eaten by deer, raccoon, foxes, and to a lesser extent songbirds. (S 2/3)
Redcedar, Eastern <a href="#">Juniperus virginiana</a>	SPD – ED FS	45	9-3	Fruit used by songbirds. Provides cover. Red Cedar should not be planted within 1/2 mile of apple orchards to avoid cedar-apple rust disease.
Hackberry <a href="#">Celtis occidentalis</a>	SPD -MWD FS - PS	60	9-10	Fruit used by birds and mature trees for nest sites.
Maple, red <a href="#">Acer rubrum</a>	PD - WD FS - PS	70	4-6	Samaras are widely consumed by birds and squirrels. Browsed by deer. (S 1/3, rare in NE corner)
Cherry, black <a href="#">Prunus serotina</a>	SPD – WD FS – PS	100	8-9	Fruit is an important food for many species of birds and mammals.
Birch, River <a href="#">Betula nigra</a>	VPD-WD FS	50	5-6	Small tree of floodplains with exfoliating bark. Stands of birch provide cover for riparian wildlife and leaves are browsed by deer. (S ½)
Gum, Black <a href="#">Nyssa sylvatica</a>	PD-WD FS - PS	60	9-10	Fruits eaten by songbirds, turkeys and woodpeckers. Deer and beaver browse on twigs. (S 1/6)
Tupelo, Water <a href="#">Nyssa aquatica</a>	VPD-PD FS - PS	100	9-12	Many kinds of wildlife (wood ducks, quail, turkey, songbirds and raccoons) eat the fruits and water tupelo is a favored honey tree. (S1/6)
Maple, Sugar <a href="#">Acer saccharum</a>	MWD-WD FS - PS	70	4-6	Samaras are widely consumed by birds and squirrels. Browsed by deer.
Sweetgum <a href="#">Liquidambar styraciflua</a>	PD-WD FS	85	9-11	Seeds from prickly ball fruit are consumed by several species of birds. (S 1/3)
Tuliptree <a href="#">Liriodendron tulipifera</a>	MWD-WD FS	100	8-11	Seeds eaten by songbirds, quail, turkey and squirrels. Browsed by deer. (S 3/5)

**NON MAST PRODUCING TREES**

<b>SPECIES</b>	<b>Site Adaptation*</b>	<b>Ave. Mat. Height (Ft.)</b>	<b>Month of fruit</b>	<b>Comments</b> (Naturally occurring range statewide unless noted)
Aspen, Bigtooth <a href="#">Populus grandidentata</a>	MWD-WD FS	70	5-6	Twigs and bark consumed by deer and beavers. (N ½)
Cottonwood, Eastern <a href="#">Populus deltoides</a>	PD-ED FS	90	5-8	Twigs and bark consumed by deer and beavers.
Sycamore, American <a href="#">Platanus occidentalis</a>	PD-WD FS	90	9-11	Sycamore has low food value to wildlife; however, this species forms an important structural component of bottomland forest and often provides cavities for nesting.

\*Site Adaptation Key:

ED= Excessively Drained	WD = Well Drained	MWD = Moderately Well Drained	SPD = Somewhat Poorly Drained
PD = Poorly Drained	VPD = Very Poorly Drained	FS = Full Sun	PS = Partial Shade

References:

USDA Natural Resources Conservation Service Plants Database <http://plants.usda.gov/>

USDA U.S. Forest Service Fire Effects Information <http://www.fs.fed.us/database/feis/plants/index.html>