Planting a mixture of trees and shrubs on your property will attract a variety of different wildlife species. Shrubs, especially dogwoods and hazelnut, provide browse and cover for whitetail deer. The fruit from prairie crab, American plum, highbush cranberry, Juneberry, and cockshurthawthorn are an excellent food source for birds and small mammals. Conifers, such as white spruce or white pine, can be nesting and roosting areas, concealment for small mammals, and a windbreak for cold protection in winter. Large hardwoods such as oaks, black cherry, hickory and aspen provide a food source consumed by many wildlife species.

**Getting Started**

**LOCATION**

Relationship to the Landscape

A planting will attract some forms of wildlife during its lifetime, however, a greater benefit is realized if separation is given to existing travel lanes, undisturbed nesting cover, proximity to wetlands, or food and watering areas. Ideally, winter food such as a food plot should be located close to a cover planting to be optimally discernible. This provides easy access to food with a minimum of exposure to predators and winter weather. Adjacent, undisturbed grassy or herby cover will provide insect food and secure nesting. Consider providing habitat that is under-represented in the surrounding areas, such as conifer cover in a hardwood forest, or not producing trees on open areas.

**Exposure**

A well-located cover planting offers relief from mountain winds. East, south and moderately sloping west facing sites are preferred; avoid severe north and west facing slopes. Also, more sunlight stimulates flowering and fruit development.

**Soil**

Most trees and shrub species require well-drained, sandy loam to loamy soils for best development and growth. Extreme sites, such as those with very sandy soils (6 inches or less to bedrock), very dry soils, low fertility soils or ones with too much or poorly drained soils, are a challenge to establish. Properly matching tree species to the soils is important; working with a forester to determine which species prior to planting will be helpful.

**Existing Cover**

There may be opportunities to use your wildlife packet to enhance existing cover such as old farm groves, fence lines, shrub wetlands or other woody cover areas. However, some open grassland areas are better left untouched. Consult with your local wildlife manager for recommendations.

When enhancing woody cover, some existing trees and shrubs may, if left unchecked, limit the development of the planting. Small trees such as elm and box elder will grow faster and eventually shade out your planting, lowering the growth and vigor of your tree trees. Unwanted trees and shrubs should be removed prior to planting. Most Wisconsin deciduous trees and shrubs are prolific seeders and in one year can grow 2-5 feet from cut stumps. To prevent sprouting, it’s best to treat the stump with a recommended herbicide.

**A PLANTING PLAN**

Once the location has been evaluated, species selection and arrangement can impact the attractiveness to wildlife.

**Design**

Planting in clumps is preferable over planting in narrow strips. A blocky shape will catch the sun on the north and west sides of the planting, with inner rows (usually conifers) providing shelter from weather and predators. Consider planting one or two rows of shrubs on the windward side of the planting to trap snow, and at least two rows on the downwind or protected side to provide resting or sunning areas.

**Spacing**

Adequate light is needed to encourage conifers to maintain lower branches and for shrubs or hardwoods to flower and produce fruit. Water spacing will promote these branches and fruit. The initial planting could use lighter spacing, but the final spacing recommendations are for the best fruit and branching production. (Refer to the table at right for spacing recommendations.)

**Species Selection**

Different species fill different needs for wildlife, including food and cover. The species descriptions in this publication provide more details on each species recommended for wildlife planting. Refer to these recommendations to enhance the wildlife needs on your property.

**An example of clump planting**

<table>
<thead>
<tr>
<th>Species</th>
<th>Size</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shrub</td>
<td>9</td>
<td>5</td>
</tr>
<tr>
<td>Conifer</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

**Side view of a 12-row woody cover planting**

**PLANTING BAR**

1. Lift out the wedge of soil.
2. Insert the bar 2" from the side of hole. Place seedling against vertical side of hole. Replace soil wedge, then step on wedge to firm.
3. Space plants 12 feet apart in rows and 15 feet apart between rows.

**Chemical Site Preparation**

Heavy soil can be controlled by a fall application of a post-emergent herbicide in the year prior to planting or after “green up” occurs in the spring prior to planting. A pre-emergent herbicide can be applied in the spring just after the trees are planted and before the existing grass cover has “greened-up.” Herbicides should not be allowed to come in contact with the tree roots. Prior to applying any chemicals to your planting, make sure to read the product label and follow the manufacturer’s recommendations.

**SITE PREPARATION**

The single most important part of establishing a successful wildlife planting is protecting the small bare-root seedlings from existing, competing vegetation. This factor cannot be overemphasized. Not only do these plants compete for light and water, many grasses produce natural chemicals which suppress tree and shrub growth. If you don’t plan to do any site preparation, it will have a significant impact on the success of establishing your wildlife planting. Heavy competition from weeds, grasses and existing woody cover will choke out your planting in short order.

**Mechanical Site Preparation**

You can set back grass competition in a planting site with a heavy and rotating fall plowing and/or disking in 6-foot-wide strips leaving undisturbed soil between rows. By minimizing the amount of soil you disturb, you reduce the threat of soil erosion and weed seed invasion by plants such as Canada Hulse. Spring plowing is discouraged, as it will introduce air into the soil which can lead to desiccation (drying) of the roots of newly planted stock.

**Chemical Site Preparation**

Wood and grass competition can be controlled with selective herbicides use. Effective control depends on four factors:

- timing of application
- herbicide selected
- weather conditions
- application rate

**Good Planting Procedures**

**CARE OF NURSERY STOCK PRIOR TO PLANTING**

Once removed from the ground and packaged at the nursery, bare-root seedlings are a very perishable product. Care is needed to avoid drying out the root system and the build-up of high temperatures that can damage seedlings. Wildlife packets are shipped in bags or wax boxes. No root wrapping material is added. Therefore, air entering the root system is critical.

**PLANTING TIME AND TECHNIQUE**

Tree planting time in Wisconsin is April and May. Plant after the frost has left the ground, but before a hard frost and hard sheeting freeze (late May). Prior to planting, it is best to mark the rows as a reminder of where the trees are planted for future weed control.

During planting, keep the roots moist. However, do not soak them in a bucket of water. A wet sandy soil laid over the roots in a bucket or bucket is sufficient. In Wisconsin, tree planting machines are available at a nominal fee in most counties from the County Land Conservation Department or the WI DNR. These planting machines have a large slow down plate that penetrates the soil and forms a narrow trench. The roots are placed in the trench and as the trench closes, the tree is held firm by packing the soil. It usually takes a 40-50 hp tractor to pull these planters, plus a three-person crew. The great advantage is that this system can plant 500-800 trees per hour.

Hand planting can be accomplished using a spade, #2 round shovel or plant bar. The planting hole should be deep enough to keep the roots from curling and the tree should be planted at the same depth as it was growing in the nursery. Punt the soil firmly so that there is no air space around the roots.
Post-Planting Maintenance

Woody cover plantings require nurturing and maintenance, especially in the early years. Protect your planting from livestock and fire. These young plants are especially attractive to cattles. Your investment of time and money is worth protecting with a fence.

Woody cover plantings also require competition fromパーク, herbicides, buckthorn, and weeds. This weed control is best accomplished with herbicides, but cultivation, manual weeding, and hand weeding are also effective alternatives.

Although cultivated is wildlife habitat, some protection of the newly planted trees is needed for survival. The reduction of heavy grass buildup around the plants also reduces habitat for mice and voles. Perch poles can be used to encourage rattles that will feed on voles and mice. Deer damage may also be a concern in the early years; generally, buck caps, fencing, tree shelters and hunting are options for limiting this damage.

Replace dead trees and shrubs every spring until you have 100 percent coverage (especially when using the recommended spacing). Normally, replacement is made for the following season and requires hand planting.

Newly planted wildlife plantings are subject to invasion by many undesirable species such as willow, box elder, elm, honey suckle, and buckthorn. Hand removal of the budding stage with a sharp grab is the most efficient way to remove them.

SPECIES DESCRIPTIONS

**AMERICAN HAULAZUUT**

Completely winter-hardy throughout Wisconsin, prospers full sun. Grows 1 to 2 feet tall, with medium growth rate. Individual clones gradually become very dense with closely packed stems. Nuts are readily eaten by deer, groundhogs, gray squirrels, and pheasants. Cattails are an important food source for several bird species and animals.

**Site Preference:** grows well in a variety of soils from poorly drained to extremely dry sites.

**AMERICAN HIGHBUSH CRABAPPLE**

A medium-large growing shrub that can grow from 10 to 20 feet tall. It thrives well in moist, rich soils. The tree develops a spreading, rounded crown. The bark, buds and new growth are very attractive to several birds and small mammals. The persistence of the fruit in winter suggests it is not very palatable to most birds. However, the fact that it is persistent makes it a valuable emergency food source in severe winters.

**Site Preference:** requires well-drained soil but tolerates a variety of soils.

**COGWOOD (RED-CEDAR & RED) **

These shrubs are winter-hardy throughout Wisconsin. They are multiple-stemmed, upright, fast-growing shrubs reaching 8-12 feet. May flowers produce small white berries in the south and red blossoms in late May develop in brownish clusters. A preferred food of turkeys, ground squirrels, and several songbirds.

**Site Preference:** prefers anti-dried soil, not drought tolerant.

**NORTHERN ASPEN**

Found in northern Wisconsin, the black spruce produces short blue-green needles with sharp points. Cones are 2 to 3 inches long and fall after they ripen in autumn. Except in dense forests, the cones are not a real threat to the new plant forming excellent escape cover for birds and small mammals. White spruce occurs throughout the state, and is slightly less hardy than the black spruce. White spruce produces good nesting sites, and the seeds are eaten by a variety of birds.

**Site Preference:** best development is among thicket of evergreens, shade tolerant, or full sun uplands.

**WHITE PINE**

A native white pine tree, grows 60 to 70 feet tall. Best growth is in moist, rich soils and well-drained hillsides. It prefers well-drained loam soils, but it can tolerate a wide variety of soils.

**Site Preference:** prefers full sun to partial shade. It grows best in moist sites for best development.

**DWARF-CLICK & WHITE**

Found in northern Wisconsin, the black spruce produces short blue-green needles with sharp points. Cones are 2 to 3 inches long and fall after they ripen in autumn. Except in dense forests, the cones are not a real threat to the new plant forming excellent escape cover for birds and small mammals. White spruce occurs throughout the state, and is slightly less hardy than the black spruce. White spruce produces good nesting sites, and the seeds are eaten by a variety of birds.

**Site Preference:** prefers anti-dried soil, not drought tolerant.

**WHITE CEDAR**

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**Site Preference:** prefers anti-dried soil, not drought tolerant.

**WHITE OAK**

Common on the better soils in the southern half of the state. When grown in the forest it is tall and straight, but when grown in the sand prairies it is wide-spreading, rounded crown. Known as oak trees in the first year, 1⁄8 to 1 inch in diameter, and 1 to 2 inches wide. Commonly a valuable fall food source for deer and many other wildlife, and the white oak is a preferred acorn species.

**Site Preference:** best growth in sandy, slightly wet sandy loam.

**GREENWOOD (RED-CEDAR & RED)**

These shrubs are winter-hardy throughout Wisconsin. They are multiple-stemmed, upright, fast-growing shrubs reaching 8-12 feet. May flowers produce small white berries in the south and red blossoms in late May develop in brownish clusters. A preferred food of turkeys, ground squirrels, and several songbirds.

**Site Preference:** prefers anti-dried soil, not drought tolerant.

**JUNEBOURB/SERVICEBERRY**

Juneberry occurs throughout the state. It is a multi-stemmed small tree, growing 20-200 feet tall in stands. The flowers have bright white petals opening in May or early June, and producing numerous purple or purple fleshy fruits. High quality plant for wildlife cover and food. Squirrels, owls and kestrel are bowered by deer; and fruits are eaten by a variety of birds.

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**WILD PLUM**

Wild plums are a large shrub or small tree that frequently attains a height of 15 feet or more. It forms dense thickets, making it very valuable for bird nesting. Produces dense clusters of white flowers in May. One-inch globe-shaped red-orange to blue plums mature in August. American plum has split-tipped twigs.

**Site Preference:** grows best in full sunlight on a well-drained site.

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**Site Preference:** best development is among thicket of evergreens, shade tolerant, or full sun uplands.

**WILD ORCHID**

Grows throughout Wisconsin on dry prairies, and is often found on poorly drained or extremely dry soils. These shrubs are winter-hardy throughout Wisconsin. They are multiple-stemmed, upright, fast-growing shrubs reaching 8-12 feet. May flowers produce small white berries in the south and red blossoms in late May develop in brownish clusters. A preferred food of turkeys, ground squirrels, and several songbirds.

**Site Preference:** prefers anti-dried soil, not drought tolerant.

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