

# **Native Shrubs for Wildlife and Multi-story Cropping**



**January 2015 - Revised**

## **PLT 05 Multi-story Cropping**

Multi-story cropping is the manipulation of forest species composition, structure, and canopy cover to achieve or maintain a desired native plant community, where the forest is managed for harvestable non-timber plants in addition or instead of timber. It can include management activities such as pruning, selective thinning, and the planting of new species to achieve plant diversity or to re-establish native plants.

The plants listed in this brochure are eligible native non-timber species used for products for the multi-story cropping enhancement.

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## American Hazelnut, *Corylus Americana*

*A dense, thicket-forming shrub reaching up to 12' in height. Yellowish-brown catkins are showy in late winter and early spring. Fall color varies from bright yellow to deep wine-red. Edible nuts eaten by birds and squirrels. Prefers moist to dry, well-drained soils in sun to partial shade.*



**Cultivation:** This adaptable shrub prefers full sun to light shade, moist to dry-mesic conditions, and a variety of soil types, including those that are loamy, sandy, or rocky. In full sun, the species grows as a large, dense, roundish shrub, and can produce many nuts. In the shade, it is often small and spindly. Shaded specimens are extremely common in the forest understory, but they do not produce many nuts.

**Importance to Wildlife:** The nuts are eaten by birds such as the wild turkey, ruffed grouse, hairy woodpecker and blue jay. In addition, the male catkins and buds are an important source of food during the winter for ruffed grouse and wild turkey. Mammals that eat the nuts include the eastern chipmunk, gray squirrel, fox squirrel, red squirrel, white-footed mouse, and deer mouse. White-tailed deer, moose, snowshoe hare and cottontail rabbits browse on the twigs and leaves. The dense thickets make good cover for woodcock, grouse and small mammals. When this shrub grows near water, beavers use the stems as a source of food and in the construction of their lodges and dams. Because American Hazelnut has a dense branching structure and large leaves, it provides an ideal nesting habitat for many songbirds. The value of this shrub to wildlife is fairly high.

**Comments:** This interesting shrub has sweet edible nuts that can be eaten raw or used in cooking. They are high in protein and very nutritious. American Hazelnut is relatively easy to identify during the summer and fall because its nuts are surrounded by distinctive bracts with wide ragged margins.

## Highbush Cranberry, *Viburnum trilobum*

**Medium-sized shrub growing up to 12' tall. Produces clusters of white flowers with bright scarlet berries in the fall. Excellent winter food for ruffed grouse.**

**Cultivation:** The preference is full sun to light shade, wet to moist conditions, and a boreal climate with cool to moderately warm summers. The soil should contain decaying organic matter to retain moisture.



**Importance to Wildlife:** The nectar and pollen of the flowers attract primarily small bees (mostly Halictid & Andrenid bees), syrphid flies and many other flies, and miscellaneous beetles. The bright red fruit is eaten by ruffed grouse and other birds, particularly during the winter when other sources of food are scarce. White-tailed deer browse on the twigs and leaves. 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.

**Comments:** Highbush Cranberry has attractive flowers, foliage, fruits, and autumn coloration. Because birds consume the fruit sparingly, they often persist during the winter. The edible fruits have a tart flavor that is similar to cranberries. However, for human consumption, it is best to use them before a hard frost occurs, which can degrade their flavor.



## Red-Osier Dogwood, *Cornus stolonifera*

**Medium-sized shrub growing up to 10' tall. Showy, red to purplish branches with white berries. Leaves are oblong with pointed tips that turn dark red in the fall. Prefers moist soils. Excellent food for wildlife.**

**Cultivation:** The preference is full sun to partial shade, moist conditions, and soil that is loamy, silty, or sandy. This shrub develops fairly quickly and tolerates temporary flooding. It should not be located at sites that are hot and dry.



**Importance to Wildlife:** The nectar and pollen of the flowers attract many kinds of insects, including long-tongued bees, short-tongued bees, wasps, flies, and butterflies. Because of their higher than average fat content, the white fruits of Red-Osier Dogwood are an important food source of wood ducks, songbirds, and upland gamebirds. The white-footed mouse and other small rodents also eat the fruits. White-tailed deer and cottontail rabbit browse on the leaves and woody stems; beavers also use the stems as a food source and as construction material for their dams and lodges. To a minor extent, the fallen leaves are eaten by some turtles, including *Chelydra serpentina* (Snapping Turtle). Wild turkeys, ruffed grouse, bobwhite quail, woodpeckers, flycatchers, catbirds, brown thrashers, cedar waxwings, cardinals and grosbeaks feed heavily on the berries.

**Comments:** Because of its attractive woody stems, Red-Osier Dogwood is one of the more attractive *Cornus* spp. (Dogwood shrubs), particularly during the winter. Because of these showy stems, it is fairly easy to identify.

## American Native Plum, *Prunus americana*

*This native plant is a small tree up to 25' tall. It has a stout short trunk and widely spreading to ascending branches. The trunk is up to 12" in diameter and it has rough, grey bark. Fruits are used by mammals, especially red fox and gray fox.*



**Cultivation:** The preference is full to partial sun, mesic conditions, and a fertile loamy soil. This small tree is vulnerable to various diseases and insects. American plum tolerates some shade but prefers full sun. It is reported on open to wooded sites across its range. It grows in sandy loams and fine sandy loams in the Great Lakes states.

**Importance to Wildlife:** The nectar and pollen of the flowers attract bees, various flies, and other insects. Bee visitors include honeybees, bumblebees, carpenter bees (*Ceratina spp.*), cuckoo bees (*Nomada spp.*), Halictid bees, and Andrenid bees. The fruits are eaten primarily by mammals, especially the red fox and gray fox. These mammals help to spread the large seeds to new locations. Birds occasionally peck at the fruits, but they do not distribute the seeds. It is possible that the fruits of plums were eaten and distributed by one or more mammal species of the ice age that have become extinct. Wild plums provide excellent nesting habitat for many songbirds and cover for small mammals. Deer browse on the leaves and twigs.

**Comments:** Wild Plum has attractive flowers during the spring and attractive fruits during the fall. However, the leaves and fruits are occasionally disfigured by insects and disease. The fruit also makes excellent jelly and jam.

## Common Elderberry, *Sambucus Canadensis*

*An attractive native shrub with fragrant white flowers and dark purple to black fruits. It is usually a multistemmed shrub with an arching habit, creating a relatively loose broad crown, growing from 4-12' tall.*



**Cultivation:** The preference is full to partial sun, moist conditions, and a fertile loamy soil. This is a fast-growing shrub, but it is usually short-lived. Nonetheless, it is able to maintain its presence in a given locale for longer periods of time through the formation of clonal offsets. Such offsets can be controlled by regular mowing.

**Importance to Wildlife:** The flowers attract a variety of insects, including honeybees, little carpenter bees (*Ceratina spp.*), Halictid bees, Syrphid flies, bee flies (Bombyliidae), Muscid flies, other miscellaneous flies, long-horned beetles (Cerambycidae), and tumbling flower beetles (Mordellidae). Little carpenter bees and mason bees (*Osmia spp.*) also construct nests for their larvae by tunneling into the soft pith of broken stems. Birds that eat the small fruits include ruffed grouse, eastern bluebird, northern cardinal, gray catbird, American robin, wood thrush, red-eyed vireo, cedar waxwing, and white-throated sparrow. Mammals that consume the fruits include the fox squirrel, red squirrel, and white-footed mouse, and there are records of the eastern box turtle (*Terrapene carolina*) consuming the fruits. Because the foliage of Common Elderberry is bitter and toxic, it is rarely consumed by mammalian herbivores, although there are some records of white-tailed deer browsing on it to a limited extent. Cottontail rabbits sometimes gnaw on the bark during the winter as an emergency source of food.

**Comments:** The small fruits of this shrub are edible when they are fully ripe and cooked, and they can be eaten raw in small amounts without harm. The fruits have been used to make elderberry jelly, pie, and wine. **CAUTION: A similar plant, Red Elderberry, *Sambucus racemosa*, has fruit that may be toxic when taken internally without cooking.**



## Winterberry, *Ilex verticillata*

*This native shrub is 5-20' tall and sparingly to abundantly branched. It prefers wet, acidic soils and can tolerate temporary flooding. The berries are bright red and serve as a source of emergency food for birds and other wildlife during the winter.*



**Cultivation:** The preference is partial sun, wet to moist conditions, and an acidic soil that is sandy or peaty. Temporary flooding is tolerated. Winterberry is usually dioecious, producing shrubs with all male (staminate) flowers or shrubs with all female (pistillate) flowers. However, sometimes bisexual (perfect) flowers are produced with the unisexual flowers. Both male and female shrubs should be planted to encourage fruit set.

**Importance to Wildlife:** The flowers are cross-pollinated by bees and possibly flies. Although the bright red berries are not a preferred source of food, they are eaten by many songbirds and some upland gamebirds such as: ruffed grouse, wild turkey, pileated woodpecker, catbird, brown thrasher, northern flicker, cedar waxwing, eastern bluebird, robins, thrushes, and white-throated sparrow. Because they persist in good condition through the winter, the berries are particularly important as a source of emergency food during the winter. The seeds are distributed to new areas by these berry-eating birds. The white-footed mouse eats the berries and its seeds, while white-tailed deer browse on the leaves and twigs to a limited extent.

**Comments:** Winterberry is most attractive during the fall and winter because of its persistent bright red berries.

## Red Raspberry, *Rubus idaeus ssp. strigosus*

*A deciduous, erect or arching, thicket-forming shrub which grows from 1-10 feet in height, but is typically about 2-4 feet high. They provide excellent summertime food and cover for more than 100 different kinds of birds and mammals.*



**Cultivation:** Red Raspberries are tolerant of a wide range of soil pH and texture but do require adequate soil moisture. Provide full sun and moderately fertile, well-drained soil. Although red raspberry grows well on barren and infertile soils, it reportedly has a relatively high demand for soil nutrients and is most abundant on nutrient-rich soils.

**Importance to Wildlife :** 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. Flowers of red raspberry provide nutritious food for bees.

**Comments:** The red raspberry was traditionally an important food of many Native American peoples. It was eaten fresh or preserved for winter use. The fruit, bark, roots, and stems of raspberries have been used to make various medicinal preparations. The unique edible fruit of the red raspberry is delicious fresh or preserved. Raspberries make excellent jams and jellies and provide flavorful additions to pies and other baked goods, candies, and dairy products such as yogurt or ice cream. Raspberry tea is commercially available and good although mild in flavor.

## Serviceberry, *Amelanchier* sp.

*If you decide to plant Serviceberries, there are approximately 20 species in the U.S. and at least 16 that are native to Michigan. Do your research to determine the best choice(s) for your region and your local ecosystem. Common serviceberry is a tall, deciduous shrub or small tree, growing up to 30 feet or more in height.*



**Cultivation:** Common serviceberry grows on a variety of sites from swampy lowlands to dry woods and sandy bluffs, depending on the species. It also grows on rocky ridges, forest edges, and open woodlands and fields. They are a fairly easy tree to grow. They will do well in full sun but are shade tolerant as well. As with most trees, water well when young and it will develop deeper roots, allowing for a higher level of drought tolerance as it matures. On its own, serviceberry will develop a deep, spreading root system. Serviceberry prefers well drained, acidic soils but are tolerant of many conditions.

**Importance to Wildlife:** At least 40 bird species and several dozen mammal species eat the fruit of the *Amelanchier* genus. Mammals that use common serviceberry include squirrels, chipmunks, mice, voles, foxes, and black bears. 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. White-tailed deer and cottontail rabbits browse the leaves and twigs.

**Comments:** Serviceberry fruits are edible by humans and are highly nutritious. The fruit tastes and can be used much like blueberries. Admittedly, some species are tastier than others. The freshly picked berries can be eaten on cereal, or cooked in a pie.



## Nannyberry, *Viburnum lentago*

*A native, deciduous, multi-stemmed shrub or small tree that may reach 36 ft. in height. The plant is also known as “sheepberry” because its fruit smells like wet sheep wool when over ripe. Nannyberry is leggy and somewhat open at maturity with an irregular to rounded crown. Suckers often form at the base. The bark is dark gray to black in a pattern of small blocks. Leaves are simple, opposite, and ellipse to egg-shaped with finely toothed margins.*



**Cultivation:** Nannyberry is adaptable to a wide range of sites, but is commonly found natively in moist areas with rich loam to clay-loam soil, such as low woods, swamp borders, or near stream banks. It also occurs on moist, wooded slopes, but tolerates drier sites. Although quite shade-tolerant, it achieves relatively larger size in more open areas.

**Importance to Wildlife:** The fruits are sweet and edible and are eaten by many species of birds and wildlife. Ruffed grouse, brown thrashers, cedar waxwings, thrushes, woodpeckers, several finches, red squirrels and deer eat the fruit of these *Viburnum* shrubs.

**Comments:** Nannyberry is a shade-tolerant, understory species useful in landscape plantings as shrub borders, taller barriers, hedges, and windbreaks. It produces good seasonal displays of flowers, fruits, and fall leaf color. The fruit can be used fresh, processed and dried. Native Americans ate it raw. White settlers used the bark for tea. It has medicinal properties, and has been used as a diuretic, a nerve sedative, for asthma and hay fever, and for treatment of cramps and palpitation.



## Black Hawthorn, *Crataegus douglasii*

*Also known as Douglas hawthorn, river hawthorn, western thorn apple, and Douglas thorn tree, it is a thorny deciduous shrub or small tree up to 30 ft. in height. It may have multiple stems from the base or a single stem that begins branching just above the ground. The bark of older stems is smooth to scaly and gray to brown; twigs are hairless, shiny, slender, and reddish, and support stout, slightly curved spines up to 3 cm long.*



**Cultivation:** Black hawthorn grows mostly in forest understories but also occurs in the open, often in pure thickets. It is both a riparian species and grows in upland sites where adequate moisture is available. Slopes may be level to steep. Soils vary greatly but typically are deep and fine textured. The species usually does not occupy recently disturbed sites. Although the species grows along streams, it seldom grows in flood-prone areas.

**Importance to Wildlife:** 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.

**Comments:** Black hawthorn contributes to the beauty of the riparian vegetation, and helps protect the soil from stream bank and overflow erosion. It makes excellent hedges and natural barriers, and is planted as a wildlife cover and food plant. The fruits are made into pies, jellies, and jams. Native Americans ate the fruits, sometimes dried and mixed with fat and other ingredients. Numerous kinds of hawthorns are native to Michigan. Other hawthorns native to the UP include *Crataegus irrasa*, *C. chrysocarpa*, *C. succelenta*, and *C. macrosperma*. Be sure to avoid the cultivars.

## **Blackberry, *Rubus allegheniensis***

*This native woody shrub forms canes that are initially erect, but often bend downward to re-root in the ground. These canes actively grow and form leaves during the first year.*



**Cultivation:** The preference is light shade to full sun, so you can improve productivity in partially shaded sites by removing low branches from nearby trees. Some drought is tolerated, although this can reduce the size of the fruit. Growth is best in rich fertile soil, however, they adapt to most soil types except alkaline and wet. If you have clay soil, you will need to amend with organic matter. This plant is easy to grow from transplants or cuttings of young growth. It can become aggressive and be difficult to eliminate. Blackberries tend to form thickets and are vigorously rooted. Locate the plants where you can control "volunteers." Blackberries have long roots and send up suckers many feet from the parent plant. Plant blackberries 300 feet away from raspberries.

**Importance to Wildlife:** In general, the ecological value of blackberries is very high. The nectar and pollen of the flowers attract many kinds of insects, especially long-tongued and short-tongued bees. Other visitors of the flowers include wasps, flies, small to medium-sized butterflies, skippers, and beetles. Various upland gamebirds, songbirds, and mammals feed on the fruit, stems, or foliage of this plant. Among the upland gamebirds, Wild Turkey, and Ring-Necked Pheasant have been observed eating the blackberries. The plant also provides shelter and shrubby protection to various ground-nesting birds and small mammals, such as the Cottontail Rabbit.

**Comments:** The berries can be used for wine, making ice cream, juice, pies, and jelly, jam, and best of all when eaten fresh on the trail. Dry leaves can be used for tea. Leaves can be dried as is or fermented which improves the flavor significantly.

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## Lowbush Blueberry, *Vaccinium angustifolium*

*This small deciduous shrub is ½-2' tall with spreading leafy branches. The trunk and branches of older shrubs are often woody with shredded bark, while young shoots and twigs are green to brownish red. Alternate leaves along the twigs and shoots are ¾-1½" long and about ¼-¾" across; they are elliptic in shape and very finely serrated along their margins.*



**Cultivation:** The preference is full sun to light shade, mesic to dry conditions, and an acidic soil that is sandy. Cross-pollination between genetically distinct shrubs increases the production of fruit. This shrub may fail to produce flowers and fruit in areas that are too shady.

**Importance to Wildlife:** The flowers are cross-pollinated primarily by bees, including bumblebees and honeybees. Both nectar and pollen are available. Blueberry fruits are an important source of food to many vertebrate animals. These species include the terrestrial turtles, *Clemmys insculpta* (Wood Turtle) and *Terrapene carolina* (Eastern Box Turtle); such birds as ruffed grouse, wild turkey, blue jay, American robin, yellow-breasted chat, Wood Thrush, and Eastern Bluebird and such mammals as the Black Bear, Red Fox, Raccoon, Striped Skunk, Opossum, Red Squirrel, Eastern Chipmunk, Deer Mouse, and White-Footed Mouse. In addition to the fruits, the White-Tailed Deer and Cottontail Rabbit also browse on the foliage and twigs. Because Lowbush Blueberry is a densely branched shrub that often forms large colonies, it provides significant protective cover for ground-nesting birds and other wildlife.

**Comments:** Lowbush Blueberry (*Vaccinium angustifolium*) is one of the primary sources of commercial blueberries, particularly in the New England region of the United States. The flavor of the berries is sweet and mild.



## Thimbleberry, *Rubus parviflorus*

*A dense shrub up to 8 feet tall, often growing in large clumps which spread through the plant's underground rhizomes. The edible fruit ripens to a bright red in mid to late summer.*



**Cultivation:** Thimbleberry grows best in moist, nutrient-rich soils with good drainage but tolerates a wide range of soil conditions. It occupies sites where nutrient levels range from moderate to high and moisture conditions range from relatively dry to wet. Generally, plants are much smaller on dry than moist sites and in poorly drained than rapidly drained soils. Thimbleberry abundance can increase substantially with canopy removal. Similarly, thimbleberry occupies open sites and occurs beneath closed canopies, but abundance is typically greater in sun than shade.

**Importance to Wildlife:** Several sources indicate that bears feed on thimbleberry fruits and shoots. A variety of birds feed on thimbleberry fruits. Its multi-branched structure and large, broad leaves suggest it probably provides important cover for small mammals and birds.

**Comments:** Humans consume thimbleberry fruits; the fruits are often used to make a tasty jam. Thimbleberry sprouts and fruits are high in vitamin C. Other uses include: boiling thimbleberry leaves with trailing blackberry (*Rubus ursinus*) roots and vines into a tea, sprinkling dried thimbleberry leaf powder into wounds to aid healing and into burns to lessen scarring, boiling thimbleberry bark to be used in soap, and chewing on dried brown thimbleberry leaves to ease stomach aches. Thimbleberry stems were used by the indigenous people of the Salmon River-Cascade Head area of the Oregon Coast in basket making.



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