



Department of
Environmental
Conservation

Trees for Tributaries

Plant Guide for Spring 2023



Compiled by Thomas R. Flynn

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Acknowledgments

This guide represents native tree and shrub species the Upper Susquehanna Coalition's Buffer Technician (*Rainer Lucas*) has chosen to supply 2023's Spring DEC's 'Trees for Tributaries' program. These species have high wildlife value, tolerant of saturated soils and commonly found in or around streams, wetlands and river banks.

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Special thank you to the creative commons of North Carolina's Garden Extension Plant Toolbox for providing hard-to-find pictures of these unique species (CC-0 to CC-4). Some images were altered to fit onto each specie's page. The photographer's information can be found on each species respective NC Plant Tool Box page. NC Plant Tool Box can be accessed by using your smart device to scan the provided "QR Code" or by using the provided Hyperlink and searching the species. URL: <https://plants.ces.ncsu.edu/>

How to Use This Guide:

Each species was first grouped by their US Fish and Wildlife Service classifications *Shrub* (pg.3) or *Tree* (pg.14). Thereafter, each grouping organizes the collection based on *scientific name* listed first by their respective *genus* and then specific *species*. The Table of Contents lists each individual species in alphabetical order of their common name.

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Shrubs

Black Chokeberry *Aronia melanocarpa* “Chokeberry / Blackfruit”

Characteristics: Capable of growing 3 to 6 feet. Flowers in April to May with white to pink-tinged petals. Fruits September to November black berries. Fall color crimson red.

Conditions: Grows well in the partial or shaded sun. Prefers wet soil conditions. Soil texture preference ranges between Clay, Loamy, sandy soils, and Organic decaying material with a pH range of 5.1 to 6.5. Can tolerate PD and SWPD soil drainage characteristics.

Habitat: Thrives in fresh tidal marshes and swamps, forested wetlands, floodplains, wet meadows; seasonally to regularly flooded or saturated. Tolerates flooding

Wildlife: Supports songbirds and small mammals.

Identification: Showy display of clustered white flowers borne in corymbs 2 – 2.5 inches across. As the season progresses, the leaves turn a deep, glossy green. Finely serrated edges of the leaf alternate along the stem.

Notes:



Button Bush *Cephalanthus occidentalis* “Head flower / of the west”

Characteristics: Capable of growing 6 to 12 feet. To flower, it needs full sun. Flowers between July and August with creamy white petals. Fruits from September to January bear green to brown berries. Fall color is described as yellow-green.

Conditions: Grows well in full, partial, and shaded sunlight. Prefers moist or wet soil conditions. Soil texture preference ranges between Clay, Loamy, Sandy, and Organic decaying material with a pH range of 6.1 to 8.5. Can tolerate PD and SWPD soil drainage characteristics.

Habitat: Freshwater tidal and non-tidal marshes, shrub swamps, forested wetlands; stream, lake, and pond edges. It can tolerate drought and flood up to 36 inches.

Wildlife: High wildlife value. Supports habitat for moth larva, butterflies, hummingbirds, waterfowl nesting, small mammals, and beneficial insects.

Identification: Opposite branching, ovate to elliptic in shape with smooth margins. Flowers are globe-shaped.

Notes:



Silky Dogwood *Cornus amomum* “horn / a odoriferous eastern spice”

Characteristics: Capable of growing 6 to 12 feet. Flowers between May and June with white petals. Fruits August to September bear blue berries. Fall color described as Orange red or purple

Conditions: Grows well in full or partial sun. Prefers moist to wet soil conditions. Soil texture preference ranges between Clay, Loam or Sandy soils with a pH range of 6.1 to 7.5. Can tolerate PD, SWPD, WD and EWD soil drainage characteristics.

Habitat: Forested wetlands, floodplains, shrub wetlands, stream and pond banks, clearings

Wildlife: High wildlife value. Provides habitat for songbirds, waterfowl, and small mammals.

Identification: It has small flat clusters of white flowers, producing white berries. Leaves are typical of dogwoods, with distinct veins turning towards the tip, while buds are small and opposite. Silky gray hairs cover the undersides of leaves and twigs.

Brown pith in older branches

Notes:



Red Osier Dogwood *Cornus sericea* “horn / silky”

Characteristics: Capable of growing 6 to 12 feet. Flowers between May and June with white flat clustered petals. Fruits August to September bear white berries and red stems. Fall color described as purple

Conditions: Very tolerant variety of conditions. Grows well in full, partial, and shaded sunlight. Prefers dry to moist soil conditions. Soil texture preference ranges between Clay to Loam with a pH range of 6.1 to 8.5. Can tolerate PD, SWPD and WD soil drainage characteristics.

Habitat: Open wooded floodplains, forested wetlands, shrub swamps, rocky woods or ledges, fencerows

Wildlife: High wildlife value. Provides habitat for songbirds, waterfowl, and small mammals.

Identification: Bright red upright branches with leaves that are opposite, with an ovate shape growing to 3-6 inches long and 1-3 inches wide. Typical of dogwood venation turning towards the tip. No brown pith in older branches

Notes:



Witchhazel *Hamamelis virginiana* “Fruiting and Flowering together / from Virginia”

Characteristics: 15 to 30 feet. Flowers between September to December with yellow flowers.

Fruits tan/brown capsules between October to November. Fall color is a yellow.

Conditions: Prefers partial sun to shade. Soil condition preferences between dry to moist that have textures of Clay, Loamy or Sandy with a pH of 5.5 to 6.5. Tolerant of SWPD to WD

Habitat: moist or dry woods or brushy fields, floodplains

Wildlife: Attracts song birds and small mammals

Identification: In-equilateral wavy margined dark green above and paler below leaf. Alternate, ovate to obovate, toothed, base oblique; leaf buds pubescent

Notes: noted for fall/winter bloom; medicinal uses, leaves may persist into winter



Spicebush *Lindera benzoin* “Named for Johann Linder / Aromatic Gum”

Characteristics: Capable of growing 6.5 to 16 feet. Flowers between March and may yellow flowers. Fruits September to October scarlet red berries. Fall color is yellow

Conditions: Grows well in partial sun or shade. Prefers moist to wet soil conditions. Soil texture preference ranges between Loamy to sandy soils and with a pH range of 4.5 to 6.5. Can tolerate PD and SWPD soil drainage characteristics.

Habitat: woods, wooded slopes, dunes, floodplain forests

Wildlife: High wildlife value. Supports song birds, butterflies and small mammals.

Identification: The Spice bush has thick, leathery, alternate, oblong-ovate, light green leaves (to 5" long). Leaves have smooth margin and aromatic (spicy fragrance) when crushed.

Notes: All parts of the Spicebush is considered edible; herbal uses. Sensitive to drought and heat.



Ninebark *Physocarpus opulifolius* “bladder fruit / wealth profusion leaves”

Characteristics: Capable of growing 5 to 12 feet. Flowers in May to July with white to pink petals. Fruits from July to March bear orange to red berries. Fall color is described as yellow to purple.

Conditions: Grows well in full, and partial sun. Prefers wet soil conditions. Soil texture preference ranges between Clay and Loamy soils with a pH range of 6.1 to 8.5. Drought tolerant.

Habitat: Thickets, along streams in sand or gravel bars, rocky slopes

Wildlife: High wildlife value. Supports songbirds, waterfowl, small mammals, and beneficial insects.

Identification: Young stems are green, older stems turn a darker reddish-brown becoming papery bark that continually molts in thin strips. Leaves are alternate and larger lower leaves will have 3 to 5 pointed lobes

Notes:



Elderberry *Sambucus nigra subsp. Canadensis*

“Stringed instrument carved from elder wood / Black subspecies / Canada”

Characteristics: Capable of growing 6 to 12 feet. Flowers in May with white petals. Fruits August to September and bears purple to blackberries. Fall color is described as yellow-green.

Conditions: Grows well in full, partial, and shaded sunlight. Prefers dry, moist, or wet soil conditions. Soil texture preference ranges between Clay, Loamy, Sandy, and Organic decaying material with a pH range of 6.1 to 7.5. Tolerant of PD, SWPD and WD drainage conditions

Habitat: Fresh tidal and non-tidal marshes, swamps, wet meadows, moist woods, fields

Wildlife: High wildlife value because the berries are eaten by 48 species of birds. Provides habitat for Songbirds and small mammals.

Identification: The leaves are oblong and have ‘sawtooth’ sharply serrated edges. They are arranged in opposite pairs with 5 to 7 leaves on each stem.

Notes: Berries are a preferred edible, while the roots and stem have toxic properties. The hollow stems are used to make flutes. New growth of American elder contains a glucoside that can be fatal to livestock.



Arrowwood *Viburnum dentatum* “Wayfaring tree/ polished tooth”

Characteristics: Capable of growing 10 to 15 feet. Flowers between May and June with white petals. Fruits from September to November bear blue or black berries. Fall color is described as reddish-purple.

Conditions: Grows well in full, partial, and shaded sunlight. Prefers dry, moist, and wet soil conditions. Soil texture preference ranges between Loamy, Sandy, and Organic decaying material with a pH range of 4.6 to 6.5. Tolerant of PD, SWPD and WD drainage conditions

Habitat: Swamps, wet woods, bogs, floodplain forests, streambanks, low, wet acid-sand habitats.

Wildlife: High wildlife value. Supports Butterflies, bumblebees and other native bees. Provides habitat for songbirds and small mammals.

Identification: Flowering shrub that is part of the honeysuckle family. Stems grow very straight in an upright with a rounded shape. Leaves are glossy green, oval foliage with toothed edges. The leaves grow around 4 inches long.

Notes: Conservation status is threatened. Edible fruits and can survive within close proximity to Black Walnut trees



Nannyberry *Viburnum lentago* “Wayfaring tree / tough but pliable”

Characteristics: Capable of growing 10 to 15 feet. Flowers in May with non-fragrant white flowers. Fruits early October blue or black berries. Fall color ranges from drab greenish-yellow to reddish-purple.

Conditions: Grows well in full or partial sun, very shade tolerant but restricts growth. Prefers moist to wet soil conditions. Soil texture preference ranges between Clay and Loamy soils and with a pH range of 5.0 to 7.5. Can tolerate PD, SWPD and WD soil drainage characteristics.

Habitat: found in fence rows, rocky woodlands, low moist woods, near stream banks, or swamp borders. As the name suggests *Viburnum* can tolerate a range of habitats including dryer sites.

Wildlife: High wildlife value. Supports birds, pollinators such as moths and butterflies, and other beneficial insects.

Identification: Ovate, finely toothed, glossy dark green leaves (to 4 inches long) are abruptly long-pointed. Identified by looking closely at the petioles: they are slightly winged and the wings are wavy and irregular, unlike those of any other shrub

Notes: The edible berries can be used to make jams and jellies require multiple viburnum species. Low salinity tolerance



Trees

Red Maple *Acer rubrum* “sharp / eager red”

Characteristics: Capable of growing 30 to 60 feet with a 30 to 60 foot spread. Flowers during April and May yellow-green petals. Fruits during April to June with red-brown winged fruits. Fall colors are described as red, orange, and yellow.

Conditions: Requires full sun or partial sun. Requires soil moisture levels between moist and wet soil. Prefers soil textures of Clay, Loamy and Sandy with a pH of 5.2 - 7.1. Tolerant of rocky soils, PD, MWD and WD drainage conditions.

Habitat: swamps, uplands, rocky hillsides, dunes

Wildlife: Song birds and small mammals

Identification: 5-10 cm long with 3-5 palmate lobes with a serrated margin. The leaves are arranged oppositely on a twig.

Notes:



Silver Maple *Acer saccharinum* “sharp / of or from sugar”

Characteristics: Capable of growing 50 to 100 feet with a 75 to 100 foot spread. Flowers during February into March greenish yellow petals. Fruits during April to June with tan-brown winged fruits. Fall colors are described as pale yellow.

Conditions: Requires full sun or partial sun. Requires moist to wet soil. Soil texture preference ranges between Clay, Loamy and Sandy with a pH of 5.2 - 7.1. Tolerant of rocky soils, PD, MWD and WD drainage conditions.

Habitat: Floodplains, stream sides, river bottoms, pond and lake edges

Wildlife: Attracts song birds, small mammals, game birds (*i.e. turkeys*) moths and butterflies. Even bats begin to roost as the bark becomes ‘shaggy’ with age. Cavities form

Identification: Compound, 3 to 6 in. opposite, palmately veined leaf with 5 deeply cut lobes; silvery underside; medium green on top, yellow, brown, green combination fall color.

Notes: This tree grows at a rapid pace. Wood breaks easily



Sugar Maple *Acer saccharum* “sharp / sugar”

Characteristics: Capable of growing 60 to 100 feet with a 50 to 75 foot spread. Flowers during April and May yellow-green petals. Fruits during September to October with red-brown winged fruits. Fall colors are described as yellow, orange, and red.

Conditions: Tolerates full sun, partial sun or shade. Requires moist soil. Prefers soil textures of Loamy and Sandy with a pH of 4 - 7.3. Moderately tolerant of rocky soils, MWD and WD drainage conditions.

Habitat: upland woods, mountain coves and slopes

Wildlife: Song birds and small mammals

Identification: Leaves are simple and opposite on the stem, 3" to 5" in length. Leaves will have three- to five-pointed, smooth-edged lobes. They are dark green on the upper surface of the leaf and a lighter green below

Notes: “Brilliant fall color”. Used to produce maple syrup. Begins to flower after 20 years. Sugar maples present allelopathic tendencies when grown in close proximity to Yellow Birch. Goldenrod and Asters present a similar allelopathic property preventing germination of seeds and stunting growth of nearby sugar maples.



River Birch *Betula nigra* “Birch / black”

Characteristics: Capable of growing 50 to 75 feet with a 35 to 50 foot spread. Flowers during April and May Fruits during July and August with Tan brown cones like fruit. Fall color is described as yellow.

Conditions: Requires partial shade to completely shaded sunlight, Moisture conditions require moist soils with a soil texture of Clay or Loamy soils with a pH of 4-6. Moderately tolerant of rocky soils. Tolerant of PD, MWD, WD

Habitat: Along streams, rivers, ponds and swamps

Wildlife: High wildlife value, attracts song birds and home to beneficial insects

Identification: Ovate in shape; 4-7½cm (1½-3”) in length: Double-toothed with even, V-shaped bases: Hairy leafstalks: Shiny dark green from above; whitish (can be velvety) from below

Notes: Attractive peeling bark, earliest fruiting of the birch family tolerant of bronze birch bore



Hackberry *Celtis occidentalis* “Greek for sweet fruit / of the west”

Characteristics: Capable of growing 40 to 100 feet with a 40 to 100 foot spread. They flower between April to May. Fruits September to December purple brown berries fruits. Fall color is described as yellow.

Conditions: Tolerant of full sun partial sun or shaded areas. Moisture conditions range from dry, moist and wet soils with a soil texture of Clay, Loamy or Sandy soils with a pH of 6 to 7.8. Tolerant of rocky soils, MWD and WD drainage conditions.

Habitat: drainage basins, floodplains, wooded slopes, high rocky limestone bluffs bordering streams, windbreaks

Wildlife: High wildlife value attracts small mammals, song birds and is a host to butterfly larva.

Identification: leaves grow in an alternate pattern with serrated edge, uneven base. Galls or bumps on leaf are common. Bark is grayish, with distinct hard-corky ridges (occasional smooth patches)

Notes: Excellent ornamental. Seedlings are much more sensitive to saturation than older trees. Slight allelopathic properties with herbaceous plant communities



Eastern Redbud *Cercis Canadensis* “Weaver's shuttle / of Canada”

Characteristics: Capable of growing 20 to 35 feet. Flowers between April and May with pink to lavender petals. Fruits from July to December bears blue or black pods. Fall color is described as golden yellow.

Conditions: Grows well in partial sun, and shaded conditions. Prefers dry to moist soils conditions. Soil texture preference ranges Loam to Sandy soils with a pH range of 4.5 to 7.5. Tolerant of soils MWD and WD drainage conditions.

Habitat: River bottoms and streambanks

Wildlife: attracts butterflies song birds and small mammals.

Identification: Leaves are heart shaped growing 3-5" long and wide and are alternate.

Leaves emerge bright green maturing to dark green.

Notes: These plants convert atmospheric nitrogen into bio-available nitrogen



American Hazelnut

Corylus americana

“helmet / from America”

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Characteristics: Capable of growing to 10 to 15 feet. Male flowers are brown and Female flowers are red from March to April. Fruits August to September with brown edible nuts. Fall color is yellow-orange

Conditions: Prefers partial sun. Preferred moisture conditions range from dry to moist. Soil texture preference ranges between Clay or Loamy preferred pH 6.1-7.5. Can tolerate rocky soils and PD, SWPD and WD soil drainage characteristics.

Habitat: Dry woodlands, forest edges, hillsides, fence rows, ravines, floodplain woods, brushy pastures

Wildlife: High wildlife value. Provides habitat for songbirds and small mammals

Identification: Leaves grow up to 6 inches long by 4 inches wide oval leaves are dark green with doubly serrated margins. The lower surface has stiff short hairs. The bark is gray-brown and smooth with a crisscross netted pattern.

Notes:



Common Persimmon *Diospyros Virginiana* “Wheat (fruit) of the gods / of Virginia”

Characteristics: Capable of growing to 50 to 75 feet. Flowers in June with greenish yellow to cream petals. Fruits July through September with orange purple berries. Fall color is yellow or purple

Conditions: Prefers full sun to partial shade. Preferred moisture conditions range from dry to moist. Soil texture preference ranges between Clay or Loamy preferred pH 5-7. Can tolerate rocky soils, SWD, WD and EWD soil drainage characteristics.

Habitat: Open, disturbed areas, deciduous woods

Wildlife: High wildlife value. Provides habitat for songbirds and small mammals

Identification: Leaves arrange in an alternate pattern. They are broadly oblong and pointed with smooth edges or some serration. They are 2 to 6 inches long and 2 to 3 inches wide with an acuminate apex and rounded base. The lower surface is usually lighter-colored and may have hairs, especially on young leaves.

Notes: Fruits may cause sickness in livestock. The inner bark and unripe fruit has been used to treat fevers, diarrhea and hemorrhage, indelible ink can be made from the fruit.



Tulip Poplar *Liriodendron tulipifera* “lilly-tree / Bearing tulips”

Characteristics: Capable of growing 60 to 100 feet with a 50 to 75foot spread. Flowers in June with yellow-green petals. Fruits August to November bears brown winged fruits. Fall color described as yellow.

Conditions: Requires full to partial sun, Moisture conditions requires moist soils with a soil texture of Loamy or Sandy soils with a pH of 4.5 to 6.5. Tolerant of SWPD and WD.

Habitat: Bottomland woods, mountain coves, lower slopes

Wildlife: Attracts hummingbirds, Songbirds and small mammals.

Identification: Alternate, simple, palmately veined, orbicular, 4-lobed with an entire margin, 4 to 8 inches long, notched to flat top. Somewhat shaped like a tulip, light green to green.

Notes: Fast growing



Black Tupelo / Gum *Nyssa sylvatica* “Water nymph / of the forest”

Characteristics: Capable of growing to 30 to 75 feet with a spread about 20 to 50 feet. Flowers bloom April to June with greenish white flowers. Fruits June to July with blue/black fleshy berries. Fall colors described as outstanding fall colors of scarlet red.

Conditions: Prefers full to medium light. Prefers moisture conditions ranging from dry moist and wet. Soil texture preference ranges from Loamy to Sandy with a pH between 4.5–6. Does not tolerate rocky soils, Tolerant of PD, SWPD and WD

Habitat: Preferred forested seasonal wetlands, swamp borders, upland woods, dry slopes; seasonally flooded or saturated

Wildlife: High wildlife value. Provides habitat for song birds, water fowl and small mammals. Cavities attract bats and other den animals

Identification: Leaves are 3 to 6 inches long and 1/2 to 3 inches wide, alternate leafing arrangement. Roughly oval with sharp, blunt points, broadest near the tip, irregular coarse teeth near the tips of some leaves, and branches held more or less 90 degrees to the main stem. On sprouts or young trees, the leaves may have a few coarse teeth.

Notes: slow growing, Tupelo honey is highly prized, ranked as one of the more dependable den tree species



American Sycamore *Platanus occidentalis* “Plane tree / of the west”

Characteristics: Capable of growing 75 to 100 feet with a 75 to 100 foot spread. Flowers during April and May, the male flower is greenish-yellow, and the female flower is red. Fruits ripen to a green brown color in the fall and persist into early winter. Each ball is fibrous interiorly and contains many seed-like fruits called achenes. Fall colors are described as brown, copper, gold and yellow. Iconic bark, mottled in a scaly pattern exfoliating to expose white to cream inner bark which darkens to gray with age before flaking off.

Conditions: Requires full direct sun 6+ hours a day. Requires soil moisture levels between wet, moist and well-drained soil. Prefers soil textures of Clay, Loamy, Sandy and thrives in high organic matter with a pH of 5.2 - 7.1. They are highly adaptable. Tolerant PD, MWD and WD drainage conditions.

Habitat: stream / river banks, seasonally flood prone areas

Wildlife: Song birds, mammals and insects

Identification: The leaves are large, 3 to 5 lobed, alternate, simple, stipulate, broadly ovate, acute, truncate to cordate, coarsely acuminate toothed, medium to dark green, 4 to 9 inches wide, and usually wider than long. The upper surface is smooth and bright green, and the undersides are paler and pubescent. The leaves can appear folded over or droopy. The petiole flares out and covers over a leaf bud at the base. The leaves turn yellow to brown in the fall. Leaves are floccose to tomentose when young, and become pubescent on veins at maturity. Stipules on young leaves persist into fall, are large, and are acuminate toothed.

Notes: sap is sweet and has been used for syrup and sugar, indigenous peoples used hollow trunks for canoes. The wood makes for good furniture.



Eastern Cottonwood *Populus Deltoids* “Dense crowd / triangular shape”

Characteristics: Capable of growing 75 to 100 feet with a 30 to 60 foot spread. Spring bloomer. Flowers from March to April. Female develop dehiscent capsules and male catkins are gold, yellow green or burgundy. Fruits during June to August with cottony tufts of seeds brown/copper, green and white. Fall colors are described as orange and yellow.

Conditions: Requires full sun 6+ hours. Tolerates a verity of soil conditions from well drained to somewhat poorly drained soils. Prefers soil textures of Clay, Loamy and Sandy with a pH of 4.5 – 8. They are highly adaptable species.

Habitat: Naturalized areas, riparian areas and sloping uplands.

Wildlife: Butterflies, pollinators, song birds and small mammals

Identification: The leaves are glossy, smooth, light to medium green, deciduous, simple, alternate, triangular, acuminate, and broadly ovate with coarse dentate or crenate margins and curved teeth. They measure 3 to 6 inches long and up to 4 wide. At the base of the leaf near the stalk are 2 small glands. The petiole measures 2.5 to 4 inches long. The fall color is yellow, but leaf drop may occur early. Bark is smooth, thin, greenish gray on young branches

Notes: Attractive bark, weak wood, fast growing, short lived



Black Cherry *Prunus serotina* “Plum / Flowering late”

Characteristics: Capable of growing 40 to 75 feet with a 20 to 35 foot spread. Blooms white flowers bloom from June to July. Fruits from August to September bears black fleshy fruits. Fall color described as yellow or red

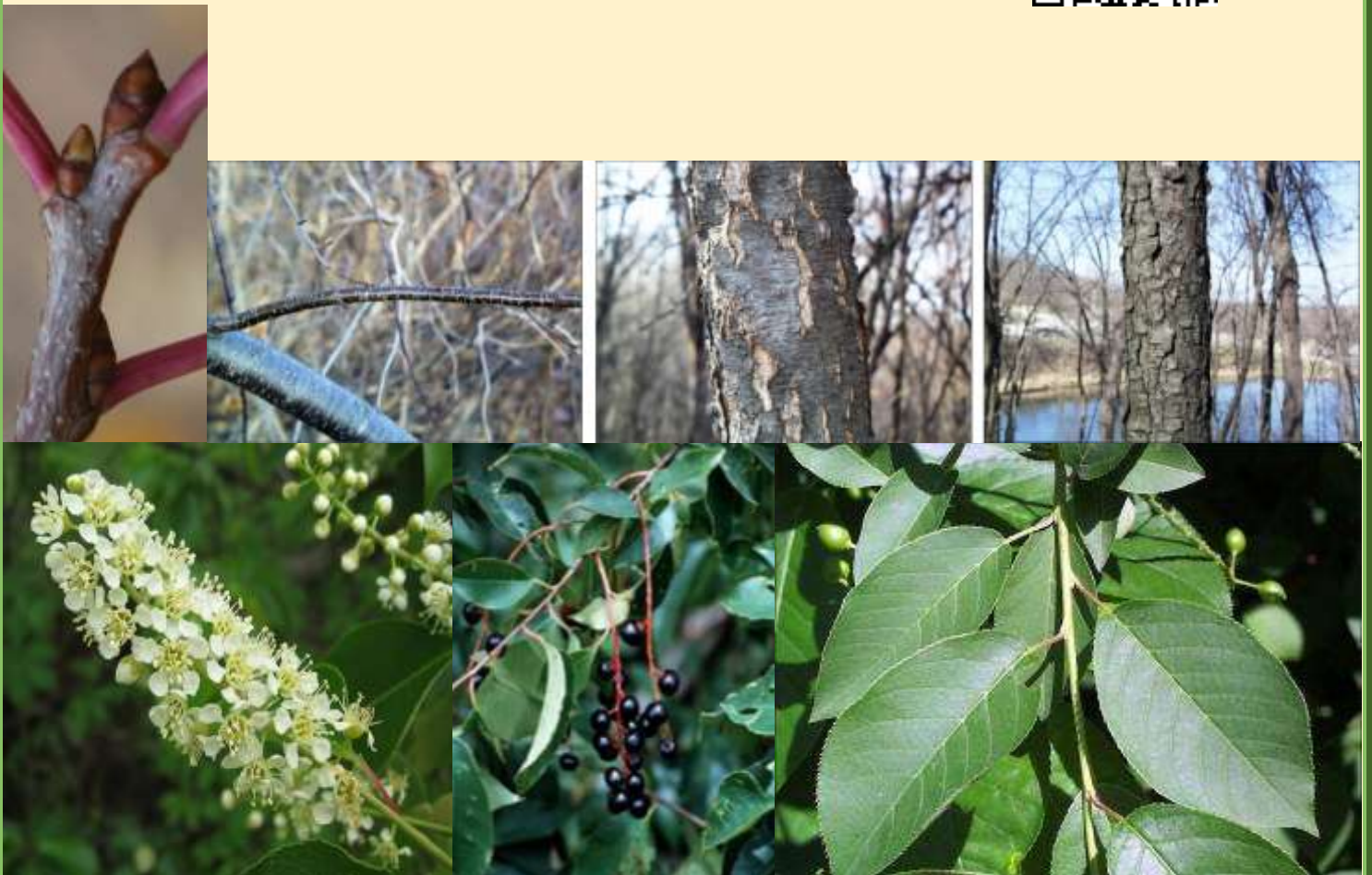
Conditions: Requires partial sun or shaded areas. Moisture conditions require moist soils with a soil texture of Loamy or Sandy soils with a pH of 4.5 to 7.5. Tolerant of PD, MWD and WD drainage conditions.

Habitat: Forests, fence rows, fields, forest edges

Wildlife: Attracts songbirds and small mammals.

Identification: 2 and 6 inches long with a long, pointed tip and tapered base. You can also identify the leaves by the fine serrations along the edges. Leaves develop early in spring, usually before those of most surrounding trees, growing on alternating sides of the branch

Notes:



Swamp White Oak *Quercus bicolor* “Oak / of two colors”

Characteristics: Capable of growing 60 to 100 with a 50 to 75 foot spread. Flowers in May to June with drooping yellow green catkins. Fruits take 1 year to mature between September to October with brown to tan acorns. Bright red, reddish purple to rusty brown fall colors

Conditions: Grows well full sun or partial sun, conditions. Prefers wet soils conditions. Soil texture preference ranges from Clay, Loamy to sandy soils with a pH range of 4.3 to 6.5. Tolerant of PD and MWD drainage conditions.

Habitat: bottomlands, swamp and stream edges

Wildlife: High wildlife value, supports beneficial insects, song birds, water fowl, moths and butterflies as well as small and large mammals

Identification: Leaves are deciduous, alternate, obovate to narrowly elliptic or narrowly obovate, 8 to 21 cm long and 4 to 16 cm wide, usually with regularly spaced, shallow, rounded teeth, or toothed in distal half only, or moderately to deeply lobed, upper surfaces dark green and glossy, lower surfaces lighter green to whitish, softly hairy. Terminal buds short, blunt and light brown, thread-like stipules often present around the end.

Notes: Bark gradually changes from reticulated to smooth Seed production begins 20 to 30 years of age. Growth in alkaline soils (with pH above 7.2) may cause iron chlorosis.



Pin Oak *Quercus Palustris* “Oak / of the marsh”

Characteristics: Capable of growing 50 to 80 with a 50 to 75 foot spread. Flowers between April and May with drooping yellow green catkins. Fruits take September to October with brown to tan acorns. Red or bronze fall colors

Conditions: Requires Full. Prefers moist to wet soils conditions. Soil texture preference is Clay or Loamy soils with a pH range of 4.5 to 6.5. Intolerant of shade. Tolerant of PD and MWD drainage conditions.

Habitat: bottomlands or upland flats

Wildlife: High wildlife value, supports beneficial insects, song birds, water fowl, as well as small and large mammals

Identification: Alternate, simple, 3 to 6 inches long, with 5 to 9 lobes and u-shaped sinuses. The bark is smooth and reddish to grayish-brown when young, then darker with shallow fissures as it ages.

Notes: It is among the faster-growing oaks. It has many short or pin like branchlets on the main branches. Lower branches bend downward



Roble de los pantanos, *Quercus palustris*



Northern Red Oak *Quercus rubra* “Oak / red”

Characteristics: Capable of growing 90 feet. Flowers between April to May with drooping yellow catkins in groups of 2 to 5. Fruits take 2 years to develop and reach maturity in autumn. Fruits acorns with shallow caps and the nut extends 1.5 inches away from the cap.

Conditions: Grows well full sun or partial sun, conditions. Prefers dry to moist soils conditions. Soil texture preference ranges from Clay to Loam soils with a pH range of 4.3 to 6.5. Tolerant of MWD, WD and EWD drainage conditions.

Habitat: slopes, coves, and drier ridges

Wildlife: High wildlife value, supports beneficial insects, water fowl, moths and butterflies as well as small and large mammals,

Identification: Alternate leaves 5-8" long and 2½-6" across, ovate to ovate in outline and pinnatifid with 5-11 lobes. Each leaf has a few large teeth along its margins that have pointed tips with bristles .The upper surface of each leaf is medium to dark green, dull to shiny, and hairless, while the lower surface is dull pale green

Notes:



Black Willow *Salix nigra* “Near water or ‘to jump’ / black”

Characteristics: Capable of growing to 35 to 50 feet. Flowers bloom March to April with yellow-green petals. Fruits April to May with yellow, cone/cone-like fruit. Fall colors consist of yellow and green

Conditions: Prefers full to medium light. Preferred moisture conditions range from moist to wet. Can tolerate PD SWPD WD soil conditions. Soil texture preference ranges between Clay, Loamy or Sandy with a pH between 6–8. Can tolerate salinity of up to 0.5 ppt.

Habitat: Preferred stream bank stabilizer spreads by suckers. Thrives in fresh tidal marshes and swamps, forested wetlands, floodplains, wet meadows; seasonally to regularly flooded or saturated. Tolerates flooding

Wildlife: High wildlife value. Provides habitat for song birds and small mammals. Preferred food for ruffed grouse and pine grouse beak

Identification: It bears narrow, lanceolate, finely serrate, medium to dark green leaves, 5 in. long (12 cm), tapering to elongate tips.

Notes: No terminal buds

