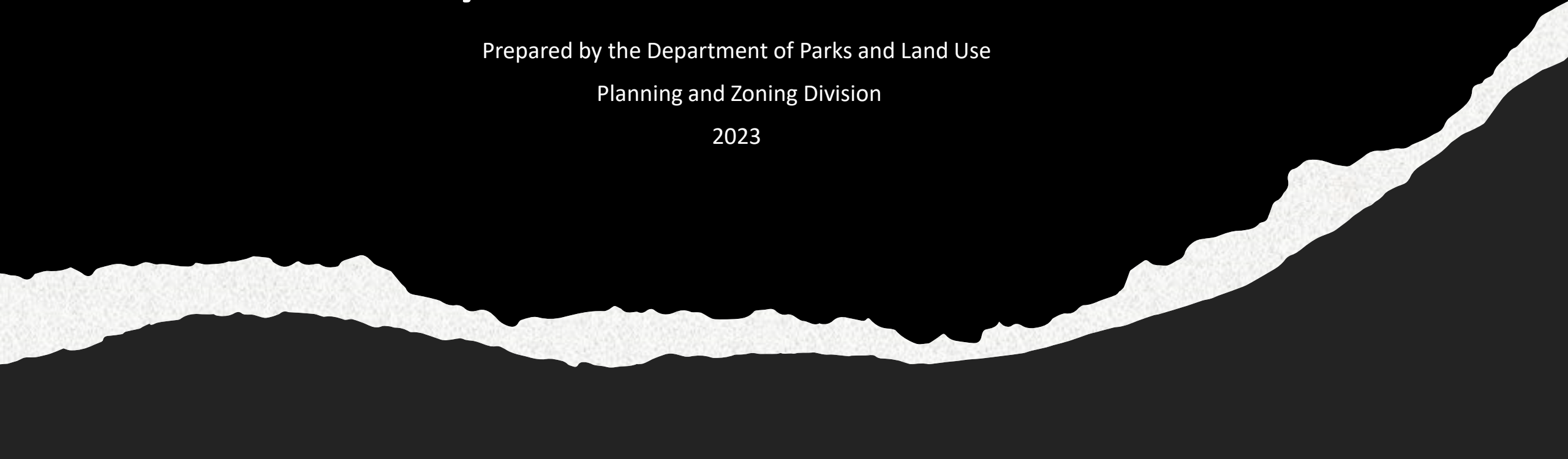


# Priority Tree User Guide

Prepared by the Department of Parks and Land Use

Planning and Zoning Division

2023



# Priority Tree User Guide

Priority Trees are trees that are native to Wisconsin and provide ecological benefits to wildlife, people, and the environment.

This User Guide will help identify priority trees by:

Habitat

Leaf morphology

Buds/stems

Bark

# Priority Trees and the Ordinance

- Priority Trees require replanting if removed within 300 feet of the Ordinary High Water Mark (OHWM) of a navigable water body, and are native, healthy, 12 inches in diameter at breast height (DBH) or greater, and are on the Priority Tree list (refer to Table 3(d)9.B of the Waukesha County Shoreland and Floodland Protection Ordinance (SFPO)).
  - There are a few exceptions as listed in the SFPO.
- If ANY tree or vegetation is removed within 35 feet of the OHWM, replanting is required using trees on the Priority Tree list.

# List of Priority Trees

- Basswood (Linden)
- Beech
- Black Cherry
- Blue Ash
- Butternut
- Elm (Red, Rock)
- Hackberry
- Hickory (Bitternut, Shagbark)
- Ironwood
- Kentucky Coffeetree
- Maple (Red, Silver, Sugar)
- Oak (all incl. White, Bur, Red, Black, Swamp, Pin)
- Red Cedar
- Tamarack
- Yellow Birch

# American Basswood (Linden)

## *(Tilia americana)*

### Habitat and Characteristics

- Habitat: moist upland woods/slopes; protected bluffs and ravines
- Tolerates full sun or dense shade
- Prefers moist, well drained soils
- Highly adaptable to soil conditions
- Can grow 70-80 feet in height
- Wide spreading, round-topped tree with dense foliage
- Associated with hard maples, Red Oak, Bitternut Hickory, Black Walnut, Elm, Hackberry, Ash, and Kentucky Coffeetree
- Often sprouts from the base of trunks; clumps of several stems are characteristic of Basswood

## Basswood, cont.

- Alternate, heart-shaped leaves with unequal bases
- Coarsely toothed leaves
- Twigs are light brown/gray
- Prominent bluntly pointed, red buds
- Bark is light or silvery gray, smooth on young trunks
- Bark breaks into long ridges and furrows, turning dark gray on older trunks



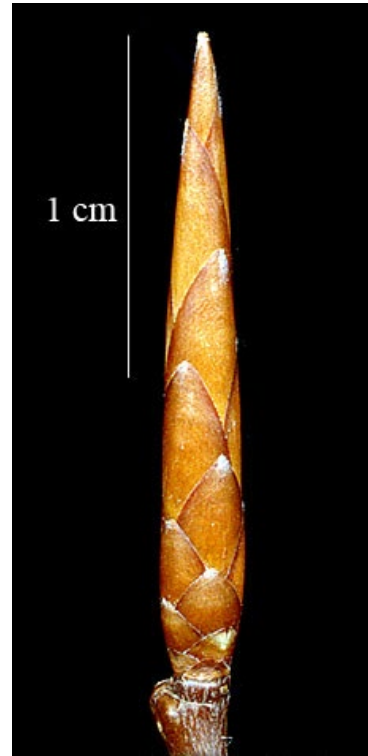
# American Beech (*Fagus grandifolia*)

## Habitat and Characteristics

- Habitat: does best in well-drained, moist slopes, and rich bottomlands
- Shade tolerant
- Crown is rounded and sometimes oval
- Trunk can be 2-3 feet in diameter
- Can grow 50-70 feet in height
- Often found with Sugar Maple, Yellow Birch, and Eastern Hemlock
- Intolerant of urban pollution, salt, and soil compaction

# Beech, cont.

- Simple, alternate leaves with long tapering tips
- Leaves have moderately toothed, parallel veins
- Twigs are light brown/gray
- Long, pointed winter buds with numerous scales
- Bark is smooth, thin, gray





# Black Cherry (*Prunus serotina*)

## Habitat and Characteristics

- Habitat: survives in moist or dry habitats; open woods, old fields, woodlands, floodplains, lower riparian slopes
- Prefers well-drained soils
- Tolerates sun, part shade, shade
- Oval-headed, spreading, pendulous limbs and arching branches
- Can grow 25-110 feet in height
- Aromatic; crushed foliage and bark have cherry-like odor/bitter taste
- Often distinguished by black knot fungus



# Black Cherry, cont.

- Simple, alternate leaves with toothed margins
- Leaves have a band of brownish hairs along the midrib and two tiny glands on petiole (leafstalk) near the leaf blade
- Twigs are reddish-brown to gray, shiny smooth, and develop a flaky, waxy cuticle
- Buds are up to  $\frac{1}{4}$  inch long with 6 dark red-brown scales
- Mature bark is dark gray/blackish with a distinctive curling pattern of the plates formed between fissures (burned potato chips)



# Blue Ash (*Fraxinus quadrangulata*)

## Habitat and Characteristics

- Habitat: upland deciduous woodlands, wooded slopes, thinly wooded bluffs, edges of limestone glades, and along limestone cliffs; found in wooded areas growing on glacial till, especially well-drained moraines
- Can grow 50-80 feet tall
- Prefers full/partial sun
- Larger, lateral branches are widely spreading; droop at the bottom of the crown, ascend at the top of the crown
- Tree is drought tolerant, dislikes flooded conditions
- The common name of Blue Ash comes from a gelatinous substance on its inner bark that turns blue when exposed to air and was used to color yarn by the early settlers

## Blue Ash, cont.

- Opposite, compound leaves, odd-pinnate with 5-11 leaflets (see example right), lanceolate (narrow, oval, tapering to a point) in shape with serrated margins
- Young twigs are sharply 4-angled
- Leaf scars are D or U-shaped with a lateral bud resting above the scar
- Medium gray bark, coarsely scaly with short, irregular ridges that are flat-topped



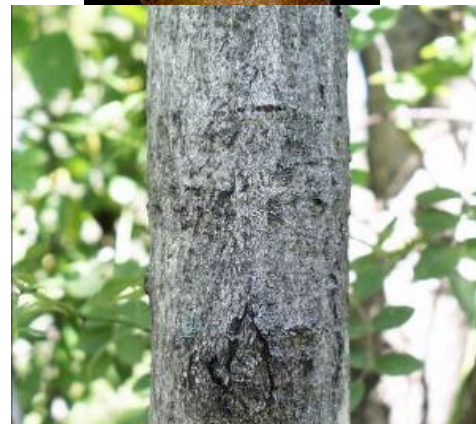
# Butternut (*Juglans cinerea*)

## Habitat and Characteristics

- Habitat: found in moist woods at the bases of slopes and bluffs, along streams in rich, well-drained soil
- Grows 40-60 feet
- Does not tolerate shade from the top, can tolerate some shade from the sides
- Often found with Basswood, Black Cherry, Beech, Black Walnut, Elm, Hemlock, and Hickory
- Rounded shape when mature

# Butternut, cont.

- Leaves are long, alternate, pinnately compound, with sticky hairs on leaf stalk; 11-19 leaflets, terminal leaflet present
- Winter twigs are stout, green to red-brown in color with chocolate brown pith
- Fruits sticky with rust-brown hairs, strong odor
- Leaf scar with band of hairs helps distinguish between Butternut and Black Walnut (*Juglans nigra*)
- Bark is gray and ash-gray with dark gray fissures between platy ridges



# Elm (*Ulmus spp.*)

## Habitat and Characteristics

### Red Elm (*U. rubra*)

- Habitat: hardwood forests, floodplains, and stream banks
- Prefers part shade, sun
- Can grow 60-100 feet
- Also called Slippery Elm due to inner bark being slippery and slimy.

### Rock Elm (*U. thomasi*)

- Habitat: hardwood forests, floodplains, and stream banks
- Prefers part shade, sun
- Can grow 50-100 feet
- Also known as Cork Elm
- Has a strong central trunk with recurved lower branches
- Commonly associated species is *Prunus serotina* (Black Cherry)

# Red Elm

- Simple, alternate leaves (oval-elliptic, obovate-oval with narrower end at the base); edges double-toothed, upper surface is rough to the touch
- Leaves can be strongly folded along the midvein
- About half the veins fork towards the tip (seen on underside)
- Young twigs are hairy and green, turning gray-brown and hairless
- Buds are up to  $\frac{1}{4}$  inch long, hairy
- Older bark has ridges and furrows, generally running parallel to the trunk





# Rock Elm

- Simple, alternate leaves (oval to obovate); tapered to a pointed tip
- Leaf edges double-toothed, with straight veins (no forking)
- Young twigs are hairy and green, turning reddish brown and hairless
- Buds are somewhat hairy, pointed at the tip, with brown scales
- Older branches are hairless, gray, thick and corky in the fourth year
- Older bark is thick and spongy, vertical ridges are coarse and interlacing with deep furrows.



# Hackberry (*Celtis occidentalis*)

## Habitat and Characteristics

- Habitat: moist to mesic floodplain woodlands, mesic upland woodlands, disturbed open woodlands, moist to mesic savannas, riverbanks, and fence rows
- Prefers moist, rich, well-drained soils in full sun; tolerates part shade
- Tolerates wind, urban pollutants, and a wide range of soil conditions (wet, dry, poor)
- Grows 40-60 feet with upright-arching branches and rounded spreading crown
- Common associate in the Beech-Sugar Maple forest cover type (includes Basswood)

# Hackberry, cont.

- Alternate, simple, double-toothed leaves, with unequal bases and sharply tapering tip; fine network of veins underneath
- Slender, light olive-brown twigs with prominent lenticels (stem pores); usually shiny and zigzag (bend in alternating angles from one node to the next)
- Bark is light to dark gray; warty outgrowths develop into narrow corky projecting ridges
- Wood is flexible, shock resistant and moderately strong, hard, and heavy; has distinctive yellow streaks
- Hackberries have a thin, very sweet purple skin surrounding a crunchy shell with a tiny nut inside. All hackberries are edible and highly nutritious. They have been consumed by humans for millennia and are one of the first foods that humans ate and stored.



# Hickory (*Carya spp.*)

## Habitat and Characteristics

### Bitternut/Swamp Hickory (*C. cordiformis*)

- Habitat: upper floodplains, bluffs, and at the bottom of slopes
- Prefers full/partial sun, full/partial shade
- Grows best in acidic, moist, well-drained soil
- Tolerates dry sites/occasional flooding
- Grows 50-70 feet (and up to 150 feet!)
- Slender shade tree
- Fastest growing hickory, but short-lived compared to other hickories

### Shagbark Hickory (*C. ovata*)

- Habitat: scattered throughout a forest of oaks, pines, and maples
- Prefers full sun, partial sun/shade
- Grows best on moist, well-drained soils
- Tolerates occasional drought and occasional flooding
- Grows 60-80 feet (and up to 150 feet!)
- Starts producing seeds around 40 years old, can continue producing seeds for 200-300 years!
- Slow growing, long-lived hickory

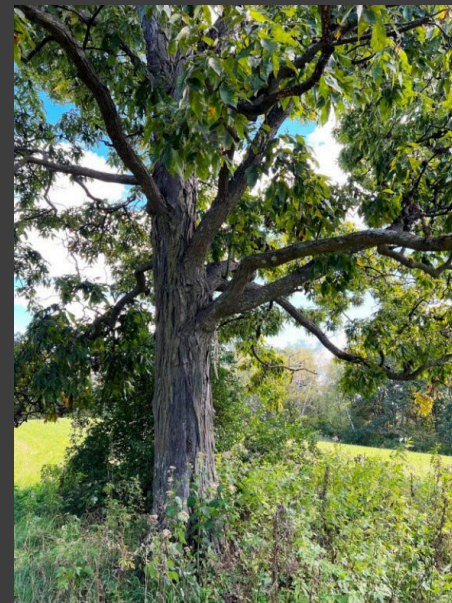
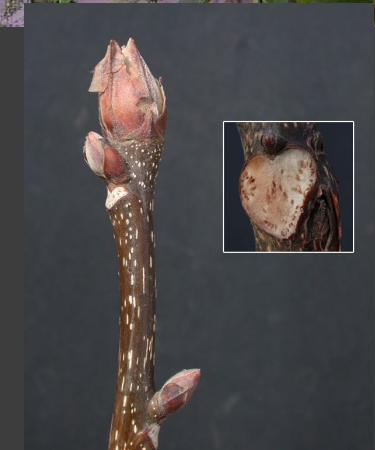
# Bitternut Hickory

- Alternate, pinnately compound leaves with 7 to 11 lance-shaped (tapered) leaflets; yellow-green with serrate (notched) margins, pale and slightly hairy underneath, on hairy stalks
- Gray-green bark with tight, narrow ridges; becomes shallowly grooved with thin, flat, interconnecting ridges on older bark
- Twigs are stout, greenish to reddish brown with numerous small and pale pores
- Bright yellow terminal buds in winter



# Shagbark Hickory

- Alternate, pinnately compound leaves
- 3-5 leaflets, lance to pear shaped; upper 3 leaflets quite larger than the lower two
- Margins toothed with hairs along outer edge of teeth
- Gray bark, separates into thick, long, shaggy strips free at one or both ends and curved outward
- Twigs are stout, brown and hairy when young, become gray and smooth with elongated pores



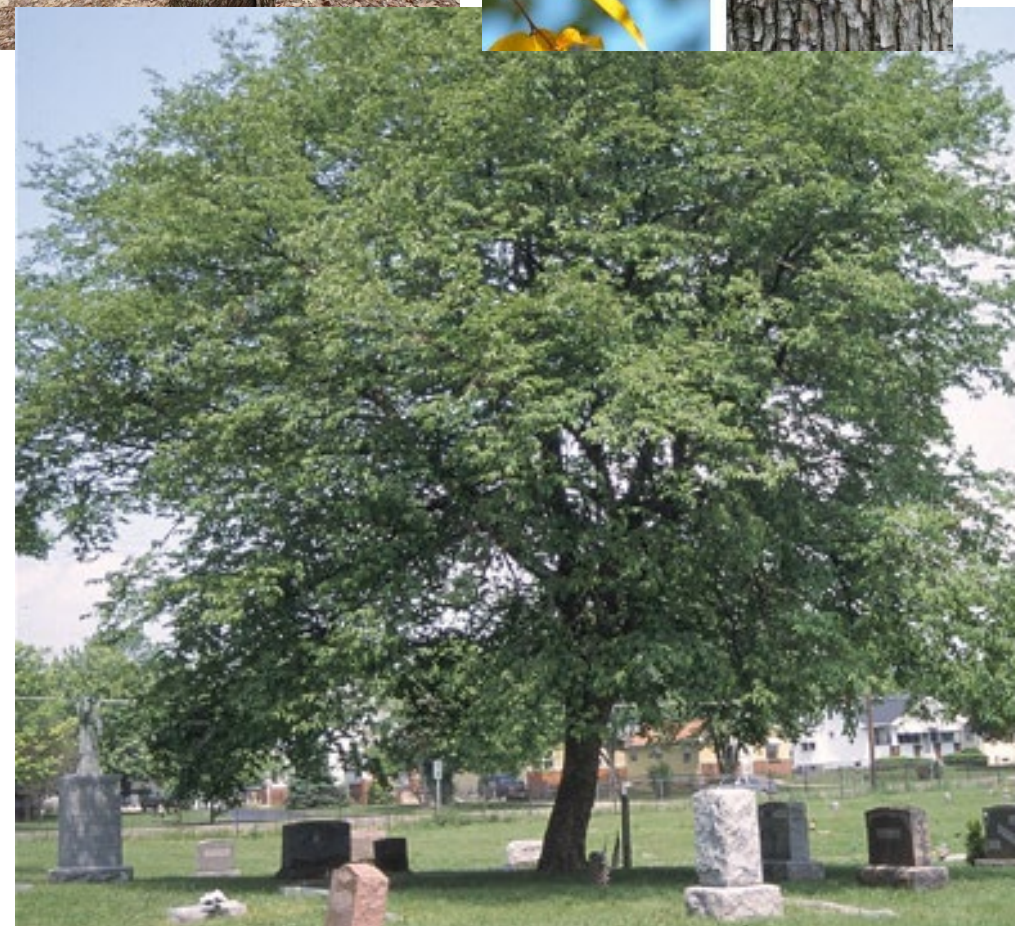
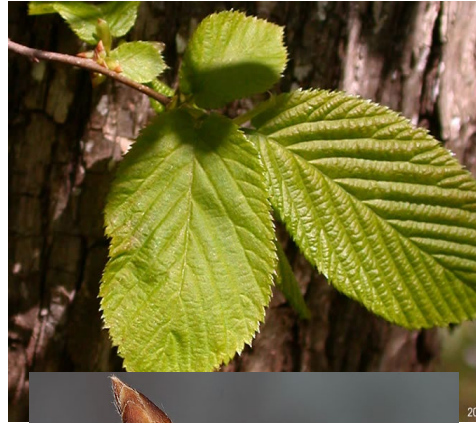
# Ironwood (*Ostrya virginiana*)

## Habitat and Characteristics

- Habitat: hardwood forests, on upland slopes, wooded bluffs, and old fields
- Grows best in moist, well-drained soil but tolerates alkaline soil and dry sites
- Prefers full sun, partial sun/shade
- Grows 25-40 feet, sometimes more than 40 feet
- Tough, very hard, understory tree, resistant to many disease and insect problems
- Has a slow growth rate
- Also called American/Eastern hophornbeam; in the Birch family
- Similar to Oaks, Ironwood is *marcescent*, meaning it keeps a number of dried brown leaves through the winter

# Ironwood, cont.

- Leaves are simple and alternate, soft to the touch, oval-elliptic, and sharply double-toothed
- Upper surface is dark green with fine hairs; lower surface is lighter green and hairy
- Twigs are brown to reddish with downy hairs and scattered white lenticels; become smooth in the second year
- Older bark is grayish-brown, thin, and finely textured with vertical, rectangular plates (think pencil-width)
- Trunk can reach 14 inches in diameter; can have more than one trunk





# Kentucky Coffeetree (*Gymnocladus dioicus*)

## Habitat and Characteristics

- Habitat: bottomland woods or rocky open wooded hillsides with other hardwood trees; seldom found on unglaciated sites
- Prefers full sun and moist, rich, well-drained soils
- Tolerates a wide range of soils and climates; will survive in dry, compacted or alkaline soil
- Can grow 60-75 feet tall; up to 90 feet
- Growth rate is slow to moderate
- Leaves are late to emerge and early to fall, the tree is naked much of the year
- Belongs to the pea or legume family
- Dried seeds were used by pioneers as a coffee substitute, but the seeds and pods are poisonous due to cytisine; the cytisine is thought to be neutralized if properly roasted
- Grows in association with Oak, Hickory, Black Walnut, Basswood, and Elm

# Kentucky Coffeetree, cont.

- Very large, alternate, bipinnately compound leaves (2 foot wide, 3 foot long) with 5-9 pairs of pinnae, 6-14+ ovate leaflets (greater than 6 inches)
- Leaves are pink-bronze in the spring and dark bluish-green in summer
- Buds are small, reddish and often above one another in close formation; terminal buds are absent; buds are small, downy, and surrounded by a hairy ring of bark
- Twigs are light brown-greenish brown with whitish patches in a zigzag shape with a heart-shaped leaf scar
- Bark is dark brown-dark gray and scaly; marked with deep irregular furrows and plates



# Maple Trees (*Acer spp.*)

## Habitat and Characteristics

### Red (*A. rubrum*)

- Habitat: tolerates alkaline soil, occasional flooding, wet sites
- Prefers full sun, partial sun/shade
- Prefers acidic, moist, well-drained soil
- Can grow 40-60 feet tall
- Moderate growth rate
- Intolerant of pollution

### Silver (*A. saccharinum*)

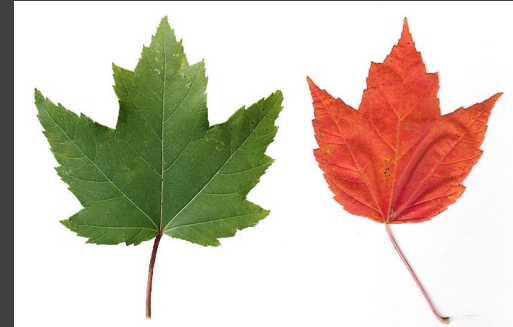
- Habitat: tolerates alkaline and clay soil, occasional drought and flooding, wet sites
- Prefers full sun, partial sun/shade
- Prefers moist, well-drained soil
- Can grow 50-70 feet tall
- Fast growth rate
- Highly susceptible to ice damage

### Sugar (*A. saccharum*)

- Habitat: tolerates alkaline, clay soil
- Prefers full sun, partial sun/shade, or full shade (most shade tolerant)
- Prefers moist, well-drained soil
- Can grow 60-75 feet tall
- Slower growth rate; one of the hardiest and long lived of all maples
- Intolerant of pollution

# Red Maple Tree

- Also called Swamp Maple
- Leaves are simple and opposite with 3-5 lobes, central lobe is squarish below the pointed tip
- Upper leaf surface is dark green and smooth, lower surface is much paler with short hairs along the veins; edges are sharply toothed
- Young twigs are smooth, brown to reddish, turning silvery gray like the branches
- Older branches and trunk become furrowed
- Companion trees include White Pine, Beech, Yellow Birch, Black Cherry, Elm, Swamp White Oak, among many others



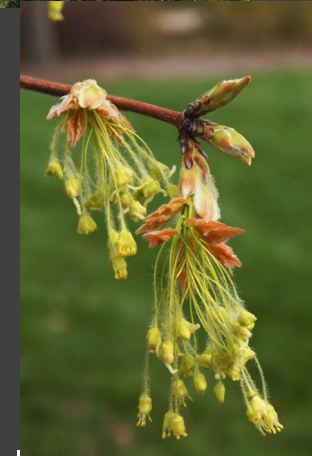
# Silver Maple Tree

- Fast growing; one of the earliest flowering plants in our area
- Leaves are opposite, simple, and palmately lobed (having lobes radiating from a common point) with 5 lobes
- Margins are toothed; upper surface is bright green, lower is silvery, white
- Winter twigs are slender, dull red or red-brown with V-shaped leaf scars
- Buds are bright red to dark reddish-purple, formed in clumps
- Bark is gray to dark brown, starting smooth and becoming shaggy as it ages
- Companion trees include American Elm, Green Ash, Pin Oak, Swamp White Oak



# Sugar Maple Tree

- Opposite, 3-5 lobed leaves; each of the largest three lobes has one to several sharpened pointed tips
- Lower leaf surface is pale green to whitish
- Twigs are glossy and reddish brown; buds are slender and point down
- Bark is smooth and gray when young, become irregularly furrowed, scaly, and dark gray when older
- Leaves of the Sugar Maple lack the irregular and double-toothed margins of the Red Maple and have U-shaped dips versus the more pointy dips of the Red Maple
- Companion trees include American Basswood, Yellow Birch, Red Maple, Elms, and Northern Red Oak



# Oak Trees(*Quercus spp.*)

## Habitat and Characteristics

\*White, Bur or Burr, and Swamp in the White Oak Group: rounded lobes on leaves and acorns

### White (*Q. alba*)

- Habitat: mesic/dry-mesic conditions
- Prefers full/partial sun
- Prefers deep loamy soil, but adapts to other kinds
- Can grow 50-80 feet (up to 100 feet)
- Slow-growing, long-lived (up to 600 years!)
- Grows in association with other upland oaks, Hickory, American Basswood, American Beech, and Sugar Maple

### Bur or Burr (*Q. macrocarpa*)

- Habitat: dry uplands and slopes
- Prefers full sun
- Prefers moist, well-drained soil
- Tolerant of alkaline soils, drought, and pollution
- Can grow 60-80 feet (up to 150 feet)
- Slow growth rate
- A prominent tree in many forest types; often found with American Elm, Green Ash, Bitternut Hickory, and White Oak

### Swamp (*Q. bicolor*)

- Habitat: low-lying and swampy areas, moist bottomlands, or river banks
- Prefers full sun
- Prefers acidic, moist, well-drained soil
- Tolerant of alkaline soils, occasional drought, occasional flooding, and road salt
- Can grow 50-60 feet tall
- Moderate growth rate
- Common associates are Silver Maple, Hackberry, American Elm, Black Walnut, Pin Oak, and River Birch

# White Oak Tree

- Simple, alternate, lobed leaves with 3-5 pairs of deep to medium lobes; lobes have round tips and round sinuses (spaces between the lobes)
- Upper surface of the leaves is medium green and glabrous/smooth; lower surface is dull, light green/gray-green
- Buds are clustered at the tips; blunt to oval in shape and reddish-brown/brown
- Branches are light gray and smooth; twigs are yellowish brown-purplish brown and glabrous, with white lenticels
- Bark is light gray, the furrows are shallow and divided into flat, narrow plates
- Leaves become reddish-purple or brown during fall; a few leaves may remain on tree over winter





# Bur or Burr Oak Tree

- Alternate, simple, lobed leaves
- Leaves are leathery and dark green with 5-9 rounded lobes; usually have a pair of deep central sinuses that extend to midrib
- Twigs are stout and yellowish brown, which start smooth and usually develop corky ridges with age
- Twigs are sometimes ridged with corky wings
- Bark is dark gray to brown and very furrowed
- The acorn is enclosed half or more in a deep cup fringed on the margin



# Swamp Oak Tree

- Leaves are 5-7 inches long, alternate and simple with rounded, shallow lobes
- The leaves are dark green above and gray to shiny white and downy below, hence the Latin name *Q. bicolor*
- Twigs are green and lustrous, becoming light orange colored or brown by first winter
- Buds are short and blunt, light brown; thread-like stipules (a small leaflike appendage typically at the base of the leaf stalk) are often present around the terminal bud
- Bark is smooth on small branches, purplish brown and separates into large, papery scales; on large branches and trunks, bark breaks into broad, flat ridges with deep fissures and is gray-brown to reddish brown in color
- The acorns are  $\frac{3}{4}$ - $1\frac{1}{4}$  inches long and usually occur in pairs on a very long stalk (1-4 inches long)



# Oak Trees (*Quercus spp.*), cont.

## Habitat and Characteristics

\*\*Black, Northern Red, and Pin Oak in Red Oak Group-bristled leaf tips

### Black (*Q. velutina*)

- Habitat: poor, dry, or heavy glacial-clay hillsides, upland woods, and sandy flats near rivers or streams
- Prefers full sun/partial shade although less tolerant to shade than counterparts
- Prefers moist/well-drained soils
- Can grow 60-80 feet (up to 150 feet)
- Prone to structural damage and decay
- Commonly associates with Hickory, American Elm, Black Walnut, Red Maple, and Black Cherry

### Northern Red (*Q. rubra*)

- Habitat: moist upland woods
- Prefers full sun, partial sun/shade
- Prefers acidic, moist, well-drained soil
- Tolerates alkaline soil, clay soil, dry sites, salt, and air pollution
- Can grow 60-75 feet
- Moderate growth rate
- Associates with Maple, Basswood, Bitternut Hickory, Black Walnut; on drier sites occurs with White Oak and Shagbark Hickory

### Pin (*Q. palustris*)

- Habitat: acidic soil, wet lowlands
- Prefers full sun
- Tolerates clay soil, occasional flooding
- Can grow 60-70 feet
- Fast growth rate
- Associates with Sugar Maple, American Elm, Swamp Oak, Black Willow, and River Birch

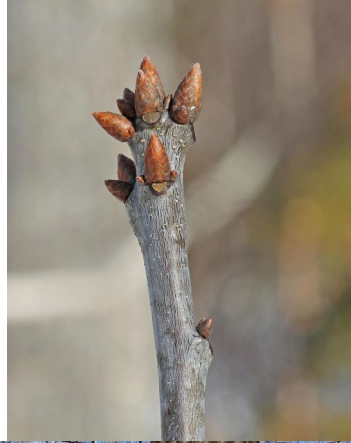
# Black Oak Tree

- Leaves are alternate, simple, and lobed; 5-7 irregular lobes have pointed tips; upper surface is lustrous and dark green in color and paler/coppery below
- Twigs are stout and red-brown to gray-green, usually glabrous, may be hairy with very large buds (1/4-1/2 inches long)
- Buds are sharp, pointed, angled in cross section and have gray-wooly bud scales
- Bark is thick, nearly black and deeply furrowed with narrow scaly ridges; the inner bark is orange-yellow in color
- The acorns are red-brown in color and enclosed for 1/3-1/2 of its length by the cup
- In contrast, a Red Oak has shallower and more evenly lobed leaves, reddish inner bark, smaller buds and a larger acorn enclosed with less than 1/4 of its length by the acorn cup



# Northern Red Oak Tree

- Simple, alternate leaves; 7-11 lobes with U-shaped sinuses and the tips are pointy
- Leaves emerge pinkish-red, turning dark green in summer, and changing to russet-red to bright red in autumn
- Twigs are stout, reddish to greenish brown, hairless; winter buds are clustered at the ends, are oval with a sharp point and chestnut in color.
- The acorns and buds of the Northern Red Oak are the largest of these oaks; the acorn cap is shallow and broad
- Twig bark starts smooth and begins to split into shiny sections as the trunks grow; they become fissured at maturity
- Bark is brown-nearly black and broken into wide, flat-topped gray ridges (when looking up the trunk, almost appears shiny); can be deeply ridged/furrowed with age



# Pin Oak Tree

- Leaves are 3-6 inches long, bristle tipped, alternate, and simple with deep, U-shaped sinuses (5-9 lobes)
- Leaves are dark green on the upper surface and paler below with tufts of pale hairs in the axils (the upper angle between the leaf stalk and stem from which it is growing) of the veins
- Twigs are slender, smooth, green to red brown in color
- Buds are 1/8 inch long, red-brown, shiny, sharp-pointed, and angled
- Bark on lower trunk is gray brown and slightly ridged; on smaller trees it is smooth and light gray to brown
- Acorns are hemisphere shaped, light brown, can be striped with dark vertical lines; the cup covers only the base of the acorn



# Red Cedar (*Juniperus virginiana*)

## Habitat and Characteristics

- Despite its common name, it is not a cedar but a juniper and part of the cypress family, and the most widely distributed native conifer in the eastern US
- Habitat: dry bluffs and escarpments (in SW WI); found on dry hillsides with coarse-textured gravelly soils (in SE WI)
- Prefers average, dry to moist, well-drained soils in full sun
- Grows 30-40 feet tall, 10-20 feet wide
- Intolerant of continuously wet soil; tolerates shade when very young
- Best drought resistance of any conifer native to the eastern United States
- Tolerates a variety of soils and growing conditions (swamps to dry, rocky ground); will grow on seemingly barren soils (may never grow bigger than a bush); highly salt tolerant
- Commonly associated with Bur Oak, Black Oak, White Oak, Shagbark Hickory, White Birch, and American Basswood (although these plants have little chance of thriving under the shade of cedars)

# Red Cedar, cont.

- Scale-like leaves are blue-green
- Small, oval, glandular depressions are on the backs of leaves
- Tree produces small, round, blue fruit on female trees
- Male cones are yellow and occur at branch tips
- Bark is red-brown in color, peels in long, narrow, fibrous strips, often leaving ashy gray areas exposed





# Tamarack (*Larix laricina*)

A Tamarack is a conifer whose needles turn golden in autumn and fall from the tree; aka, a deciduous conifer

## Habitat and Characteristics

- Habitat: wet, swampy or boggy locations; can grow in other locations with moist soil
- Prefers full sun
- Narrow, open, conical form
- Intolerant of pollution, drought
- Grows 30-70 feet tall, 10-30 feet wide
- Fast growth rate
- Tolerates clay soil, occasional flooding, wet sites
- Struggles with competing plants
- In Algonquin, the name means 'wood for snowshoes' since its wood is flexible in strips; the fine roots were used for sewing birch bark
- Also known as Eastern Larch, American Larch, Hackmatack

# Tamarack, cont.

- Bark is rough with thin, reddish-brown scales
- Twigs are light brown and covered with numerous tiny spurs or short branches
- Leaves are needle-like, flat, soft, and slender, about 1 inch in length
- Leaves are borne in clusters and distributed singly on terminal shoots
- Leaves are bright green in spring, turning dull yellow in fall
- Young cones are red or greenish, mature cones are light brown, nearly spherical and remain on the trees for several years



# Yellow Birch (*Betula alleghaniensis*)

## Habitat and Characteristics

- Largest of all North American birches (other names are Gray Birch, Silver Birch, and Swamp Birch)
- Habitat: moist woodlands and along stream banks, swamps, and slopes; often restricted to moist gorges above 3,000 feet
- Prefers full sun to part shade
- Grows up to 100 feet, but 50 feet is more typical
- Long-lived, slow growing tree
- In Wisconsin Yellow Birch is found on glacial till (sediment), outwash sand, lacustrine (lake) deposits, and shallow loess (fine windblown or glacier created sediment) deposits; e.g., grows best on well-drained and moderately well-drained soils and on lacustrine soils capped with loess.
- Sensitive to heat, drought, and soil compaction
- Grows in association with Eastern Hemlock, White Pine, Sugar Maple, American Beech, and Ironwood

# Yellow Birch, cont.

- Leaves are elliptical, simple, alternate; with a pointed tip and finely double-toothed edges; young leaves are bronze-green with long hairs beneath
- Bark is bronze or yellowish-gray when tree is young; outer layers peel horizontally in thin, curly, papery strips; as tree matures, bark may appear shredded; prominent, lighter-colored lenticels
- Inner bark has a wintergreen odor and taste, as do the twigs (an identifier to distinguish Yellow Birch from Paper Birch)
- Branches have thin, sparse, pubescent (downy) twigs and small, blunt, moderately pubescent buds

