



The following tree identification cards have been designed for students, volunteers, and tree enthusiasts to guide your exploration of trees, and can be printed on 4x6 inch cards.

Care has been taken to create accurate descriptions of woody plant characteristics. However, nature is wondrous in its variety, and characteristics such as color and size can (*and do*) vary. Use of botanical terminology in the descriptions has been limited, but where unavoidable, a definition has been provided.

The statistician George Box said, “...all models are wrong, some are useful,” and the same thing is true in plant identification guides, they are all wrong to some degree, but some are very useful. We hope the following will be a useful to help in your enjoyment of identifying the trees and shrubs you encounter in your community or wherever you may roam.

- Dr. Eric North



## Across the Top

**Common names** are easy for people to remember, but can be regional and numerous. As an example: Hemlock is both a poisonous herbaceous plant (*Conium maculatum*) and a coniferous tree (*Tsuga canadensis*). For these reasons, we will also use the scientific names of trees in this guide.

**Scientific names** are listed as *Genus specific epithet*. Species names are binomial, meaning they consist of both the genus and specific epithet. Example: *Quercus* spp. is the genus that contains all of the oaks, and *Quercus alba* is white oak.

**Status** refers to the native or non-native classification of the tree. For the purposes of this guide, the status applies to the entire state of Minnesota. Native status was obtained from the *Trees & Shrubs of Minnesota* by Welby Smith.

**Code** is used in programs like iTree or other inventory programs, and was included as a quick standardized short-hand for referring to specific species.



## Photographs

Photographs were taken over several years to illustrate various plant features, such as flowers and fruits. Many of the photos for a given species were taken of a single tree, and so will only be representational of what you might expect to see. For example, leaf sizes can vary greatly between sunny and shady sites. These photographs are intended to represent the “typical” form of a species. **Remember: Nature can produce amazing variety.**

Use the photographs as a guide and not a template for the appearance of the plant you are trying to identify. Also, pay attention to the similarities within a genus. *Quercus* (the oaks), for example, have acorns and many of the species (though not all!) have leaves with lobes. Being able to narrow down a plant to a genus reduces the number of possible species you have encountered, helping to identify a plant more quickly.

## Using the Guide



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### Descriptions and Terminology

Plant descriptions are written below the images, and are based on personal observation and descriptions from books listed in the reference section.

**Alternate, opposite, and whorled** describe the position of the leaf or bud on a twig, which is a common identification trait. Maples have buds/leaves that are opposite each other on a twig; oak leaves alternate position on a twig.

**Serrate** generally refers to a leaf edge (margin) — think of a bread knife blade.

**Lenticels** are small white dots or lines on bark, twigs, or fruit.

**Terminal bud** refers to a bud at the end of a twig. **Lateral buds** are found along the twig.

**Simple or compound** refers to leaf form. **Simple** means one leaf blade is attached to a stem ending at a bud. **Compound** means multiple leaf blades attached to a stem that ends in a bud. Leaves can be pinnately compound (long) or palmately compound (think palm of your hand).

## References



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- Trees and Shrubs of Minnesota  
*Welby R. Smith*
- Woody Plants for the Central and Northern Prairies  
*Walter T. Bagley and Richard K. Sutton*
- Manual of Woody Landscape Plants  
*Michael Dirr*
- Harlow and Harrar's Textbook of Dendrology  
*James W. Hardin, Donald J. Leopold, and Fred M. White*

### common juniper

*Juniperus communis*

Status: Native

Code: JUC06



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**Bark:** red/brown in papery stripes  
**Foliage:** singularly attached needles, sharp tip, two white stomatal lines  
**Twigs:** slightly triangular, with ridges  
**Flower:** male: small, yellow, cylindrical; female: green  
**Fruit:** cones, bluish/black when ripe, often covered in a white-waxy bloom

### eastern redcedar

*Juniperus virginiana*

Status: Native

Code: JUVI



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**Bark:** thin red-brown with vertical shredding strips, fibrous  
**Foliage:** evergreen, young needles sharp, older needles overlapping scale  
**Form:** pyramidal or columnar, typically wider at the base, top often “drooping”  
**Fruit:** cones; female: circular to oval, bluish, berry-like; male: small, brown at foliage tip



## baldcypress

*Taxodium distichum*

Status: Non-native

Code: TADI2



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**Bark:** thin and fibrous with a pattern of flat ridges and narrow furrows

**Foliage:** deciduous, linear and flat

**Twigs:** start off green and become brown after the first year

**Flower:** brown and inconspicuous, not showy

**Fruit:** small purple-green cones when immature and turn brown with maturity

## northern whitecedar, arborvitae

*Thuja occidentalis*

Status: Native

Code: THOC2



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**Bark:** thin brown and gray vertical strips, fibrous

**Foliage:** fanned and flattened scales, soft, aromatic

**Twigs:** orange/brown, thin, with flexible scales

**Flower:** male: small, tan; female: tan/light green

**Fruit:** cones, upright, oblong, slightly woody, brown

## balsam fir

*Abies balsamea*

Status: Native

Code: ABBA



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**Bark:** gray/green, resin blisters cover the trunk; breaks into plates with age

**Foliage:** green, white lines under needle, flat, attached to twig with 'suction cup'

**Twigs:** smooth with small gray hairs

**Flower:** yellow, beneath needles, appearance similar to catkins

**Fruit:** cones, purple, then gray/brown; upright on branch; cone scales; pegs on branch

## concolor fir, white fir

*Abies concolor*

Status: Non-native

Code: ABCO



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**Bark:** gray, smooth with few resinous blisters; deeply, irregularly ridged with age

**Foliage:** blue-green needles, singularly attached with "suction cup", curved up, citrus smell when crushed

**Twigs:** yellow/green on current year, then gray/brown in following years

**Flower:** male red/violet

**Fruit:** cones, light pale green or brown, 3-6" long, cylinder; upright on the stem



## tamarack, eastern larch

*Larix laricina*

Status: Native

Code: LALA



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**Bark:** smooth, thin gray to red/brown, scaly with age

**Foliage:** needles in bundles of 12-30, tufted, green to yellow/green; spur shoots

**Twigs:** slender, yellow/brown to tan, smooth or hairy

**Flowers:** female: purple, pink, red, green (photo 2); male: smaller and yellow

**Fruit:** cones, egg-shaped, tan/brown, 1/4th" to 1" long, upright on twig

## jack pine

*Pinus banksiana*

Status: Native

Code: PIBA2



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**Bark:** scaly with irregular flaky plates; flakes reveal a yellow orange inner bark while the outer layer is brown-black

**Foliage:** yellow-green needles; 2-needled bundles, often twisted

**Twigs:** smooth twigs with red-brown coloring

**Flower:** male flowers are yellowish, while female colors are purple

**Fruit:** cones, 1-3" long, curved inward and usually closed

## lacebark pine

*Pinus bungeana*

Status: Non-native

Code: PIBU



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**Bark:** gray and silver patches, greenish young stems

**Foliage:** margins are finely toothed, needles are very rigid and sharp, dark green with raised midrib

**Twigs:** grayish-green, shiny and smooth

**Fruit:** cones, terminal or lateral, 2-3" long, 2" wide, light yellow-ish brown

## Austrian pine

*Pinus nigra*

Status: Non-native

Code: PINI



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**Bark:** gray/black with red/pink, irregular plates developing furrows with age

**Foliage:** needles attached in pairs, 5" to 7" long

**Twigs:** gray with large white resin buds

**Flower/fruit:** 3" to 4" long; tan, woody scales with a small spine (falls off at maturity)



## ponderosa pine

*Pinus ponderosa*

Status: Non-native

Code: PIPO



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**Bark:** black, fading to grayish and scaly, becoming irregular; furrowed red-brown plates

**Foliage:** 2- and 3-bundled needles, 6" to 8" in length

**Form:** tall, straight trunk with a rounded or broad conical crown

**Fruit:** cones 3" to 6" in length, scales having stiff spines

## red pine

*Pinus resinosa*

Status: Native

Code: PIRE



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**Bark:** grayish and scaly, furrowed orange-brown plates

**Foliage:** 2-needles, 4" to 6" in length, snap cleanly when bent in half

**Form:** tall, straight trunk with narrow branching and an oblong crown

**Fruit:** cones 1.5" to 2.5" in length, egg shaped, cone scale do not have prickles (thorns)

## eastern white pine

*Pinus strobus*

Status: Native

Code: PIST



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**Bark:** smooth, silvery when young, developing thick, dark-gray furrows

**Foliage:** soft, light green in bundles of 5 needles

**Form:** pyramidal when young, maturing to large up-turned branches

**Fruit:** cones longer than wide, 5-8" long, thick, white resin on scales

## Mugo pine

*Pinus mugo*

Status: Non-native

Code: PIMU80



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**Bark:** gray-brown with irregular scales

**Foliage:** dark green, 1-2" long

**Twigs:** green/gray when young; then brown/gray with scars from previous needle attachments with age

**Fruit:** cones erect or hanging down, solitary or in groups of 3-4; 1-2", slight egg shape



## Scots pine

*Pinus sylvestris*

Status: Non-native

Code: PISY



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**Bark:** young— papery, flaky, orange; older— gray/brown, scales, thick plates

**Foliage:** needles in pairs between 1-3" long

**Twigs:** gray/yellow when young; light brown to brown-orange with age

**Flower:** male— small yellow clusters at base of twig; female— tiny, bud tips

**Fruit:** small woody cones up to 3" long, slightly egg-shaped

## Norway spruce

*Picea abies*

Status: Non-native

Code: PIAB



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**Bark:** gray flaky, scaly

**Foliage:** single needle, can roll easily between thumb and index finger

**Twigs:** orange-brown with drooping curtain-like branchlets

**Flower/fruit:** large cone with thin-stiff scales 6" to 8" long

## white spruce

*Picea glauca*

Status: Native

Code: PIGL



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**Bark:** brown/gray some red platy, scaly

**Foliage:** needles singly attached, needles are square and pointed

**Twigs:** gray with some orange, no hairs

**Fruit:** small cones 1" to 2" long, brown with papery scales, scales with smooth edges

## Serbian spruce

*Picea omorika*

Status: Non-native

Code: PIOM2



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**Bark:** brown and scaled

**Foliage:** 1/2—1" long, dark green on the upper side and the underside

**Twigs:** brown in color, branches droop as the tree grows

**Flower:** males look like strawberries, small

**Fruit:** cone, 1.25-1.75" long and .5'—.75' wide



## Colorado spruce

*Picea pungens*

Status: Non-native

Code: PIPU



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**Bark:** grayish-brown flaky or scaly. Frequent bluish sap oozing from wounds

**Foliage:** singly attached needles, very sharply points; green or bluish in color

**Twigs:** orange on current year's growth (new growth)

**Fruit:** cone 3" to 5" long, with fringed papery scales; brown to golden in color, hanging down on branch

## Douglas-fir

*Pseudotsuga menziesii*

Status: Non-native

Code: PSME



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**Bark:** smooth, gray when young; thick ridges, brown/red when older

**Foliage:** singly attached, flat needle coming to a point, generally soft

**Twigs:** gray with a pointed and scaled terminal bud

**Fruit:** papery cone with smooth scale and distinct bracts emerging from scales

## eastern hemlock

*Tsuga canadensis*

Status: Native

Code: TSCA



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**Bark:** grayish to brownish red, scaly when young, large flaky plates with age

**Foliage:** long tapering needles, dark green with two white stomatal lines

**Twigs:** thin, brown to gray

**Flower:** pollen bearing: yellow, small, round; cone producing: green at twig tip

**Fruit:** cone, egg-shaped, light brown

## yellow birch

*Betula alleghaniensis*

Status: Native

Code: BEAL2



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**Bark:** golden yellow with curling-papery strips; darker and furrow ridges with age

**Foliage:** green, rounded base and pointed tip; doubly toothed edges; V-shaped veins

**Twigs:** brown with lenticels and spur shoots; thin, wintergreen odor/taste when scratched

**Flower:** male and female catkins

**Fruit:** small papery cones containing circular samaras



## sweet birch

*Betula lenta*

Status: Non-native

Code: BELE



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**Bark:** dark brown with lenticels; cracking into stiff plates, furrowed ridges

**Foliage:** green, oval/heart-shaped, pointed tip; serrated, hairy veins and stem

**Twigs:** slender, red/brown with lenticels, spur shoots; wintergreen taste/odor

**Flower:** male catkins: narrow, 2-3" long; female catkins: shorter/broader

**Fruit:** small-winged nutlets

## river birch

*Betula nigra*

Status: Native

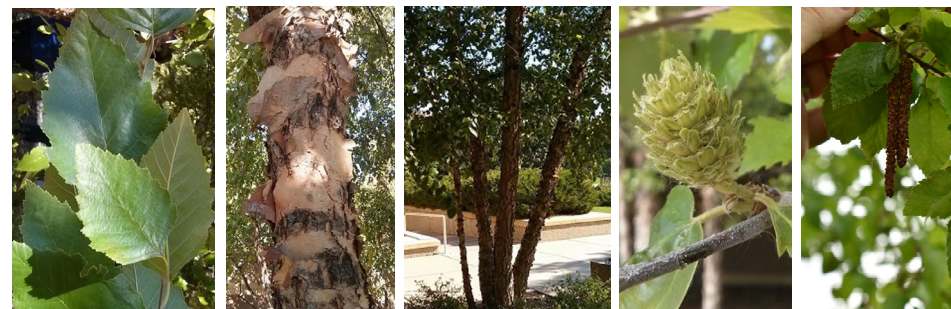
Code: BENI



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**Bark:** papery, white, brown/salmon colors; darker brown and furrowed/platy with age

**Foliage:** broad base with pointed tip, doubly serrated edge

**Twigs:** brown/gray, slender and flexible, hairy, reddish and smooth with age

**Flower:** catkins, male; droopy, light green. Female; short and upright, green

**Fruit:** papery, light brown "cone" containing small nutlet

## paper birch

*Betula papyrifera*

Status: Native

Code: BEPA



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**Bark:** reddish with lenticels; then white peeling bark; white with black furrows with age

**Foliage:** alternate, simple, doubly serrate edges; leaf base is symmetrical, rounded

**Twigs:** slender, red/brown with lenticels

**Buds:** red/brown, pointed with scales

**Flower:** male catkins hanging; female catkins broader and upright

**Fruit:** papery cone with winged seeds

## American hazel

*Corylus americana*

Status: Native

Code: COAM3



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**Bark:** brown/gray, developing diamond pattern with age

**Foliage:** irregular base, broad oval, doubly serrate edge, rough texture

**Twigs:** brown and thin, hairy with zig-zag pattern

**Flower:** male: short catkins in clusters of 2-3, female: end of twig, inconspicuous

**Fruit:** nuts in a papery-husk



## musclewood

*Carpinus caroliniana*

Status: Native

Code: CACA18



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Status: non-native



**Bark:** thin, smooth gray. Rippled wood gives the trunk and branches “muscled” appearance

**Foliage:** alternate, simple, oval with pointed tip, finely serrated edge, red/yellow in fall

**Twigs:** slender, zigzag with small pointed buds reddish/brown

**Fruit:** a leafy bract hanging groups with a small nutlet underneath

## ironwood

*Ostrya virginiana*

Status: Native

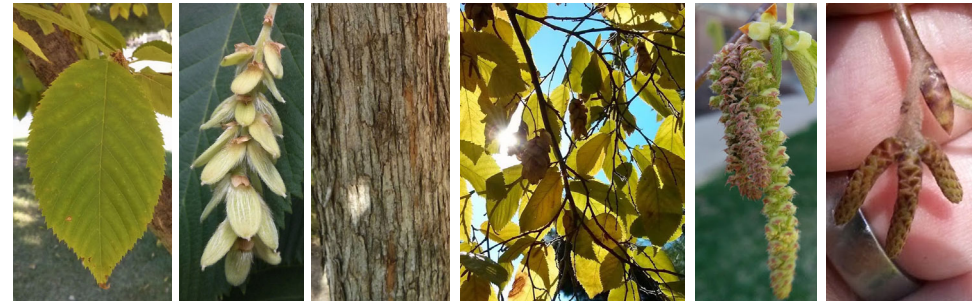
Code: OSVI



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**Bark:** tan/brown with thin vertical strips

**Foliage:** green, oval with pointed tip, doubly serrated, short petiole

**Twigs:** slender, light gray to tannish brown or reddish brown, zig-zag appearance

**Flower:** male: 3-grouped greenish red catkins; female: single catkin, greenish red

**Fruit:** nutlet inside an air-bladder, groups stacked in hanging clusters, hairy

## honey-locust

*Gleditsia triacanthos*

Status: Native

Code: GLTR



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**Bark:** red/brown scaly/cracked ridges, lenticels when young; may have stiff thorns

**Foliage:** alternate, pinnately or bi-pinnately compound, leaflets small and oval

**Twigs:** zigzag in appearance, buds generally not visible, may have thorns

**Flower/fruit:** long twisted pods, green turning leather brown, seed brown “bean” shaped

## Kentucky coffeetree

*Gymnocladus dioica*

Status: Native

Code: GYDI



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**Bark:** gray platy with curling edges, develops brown with rough fissures

**Foliage:** alternate, pinnately or bi-pinnately compound with many leaflets, large (up to 36” long)

**Twigs:** thick/stout, large leaf scar

**Fruit:** female only, large seed pod starts yellow, matures leather brown, hard seed



## American chestnut

*Castanea dentata*

Status: Non-native

Code: CADE12



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**Bark:** brown/gray with ridges; becomes deeper and more irregular with age

**Foliage:** alternate, simple, shiny green, narrow with small teeth along edge

**Twigs:** shiny, yellow to brown, terminal bud with rounded base and abruptly pointed tip

**Fruit:** very spiny husk (green then brown), containing chestnuts

## sawtooth oak

*Quercus acutissima*

Status: Non-native

Code: QUAC



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**Bark:** deeply ridged and furrowed, ash brown

**Foliage:** alternate, simple serrated leaves with bristle-like teeth, dark green

**Twigs:** rounded, red to gray-brown with multiple terminal buds

**Flower:** long, slender, golden catkins

**Fruit:** larger, rich brown acorns with medusa-like caps

## white oak

*Quercus alba*

Status: Native

Code: QUAL



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**Bark:** light gray, narrow ridges, developing blocky irregular patches with age

**Twigs:** current year is reddish, terminal buds clustered

**Foliage:** alternate, simple with several fairly uniform lobes (highly variable in size/shape)

**Fruit:** acorn with a cap covering the top 1/4, yellow turning brown

## bicolor oak

*Quercus bicolor*

Status: Native

Code: QUBI



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**Bark:** gray/brown, exfoliating scales when young; blocked and deeply fissured with age

**Twigs:** slender, gray with clustered rounded terminal buds

**Foliage:** alternate, simple with shallow rounded lobes, shiny green top, white underside

**Fruit:** acorns with long stem, cap about 1/4 the kernel with rough bumps



## shingle oak

*Quercus imbricaria*

Status: Non-Native

Code: QUIM



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**Bark:** brown/gray, narrow ridges becoming broader with shallow fissures

**Foliage:** long, narrow, wavy edge, not lobed, pale green slightly hairy underside

**Twigs:** slender, smooth with a slight angle

**Flower:** greenish yellow drooping catkins

**Fruit:** acorn on a short stem with a thin bowl-like cap covering half of the nut

## bur oak

*Quercus macrocarpa*

Status: Native

Code: QUMA2



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**Bark:** grayish with deep furrows and vertical ridges

**Foliage:** alternate, simple with irregular lobes, typically two lobes deep to leaf center

**Twigs:** can have corky ridges, terminal buds are clustered and rounded

**Flower:** green and pendulous

**Fruit:** acorns with a large fringed-cap

## chestnut oak

*Quercus prinus*

Status: Non-native

Code: QUPR



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**Bark:** brown, nearly black, deeply furrowed

**Foliage:** lobed, margin of leaf coarsely toothed, yellow-green tips

**Twigs:** reddish brown, glabrous

**Flower:** male: yellow/green hanging catkins; female: close to base

**Fruit:** acorns solitary or in pairs, egg-shaped to rounded, shiny, hairy/warty cap

## pin oak

*Quercus palustris*

Status: Non-native

Code: QUPA2



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**Bark:** gray/brown and smooth when young; shallow furrows and rough ridges with age

**Foliage:** alternate, simple, lobed, lobes ending in a point, often deep red in fall

**Twigs:** slender, current year red/brown, shiny; then gray; terminal bud red, pointed

**Flower:** yellow-green catkins

**Fruit:** round acorn with a scaled cap covering less than one-fourth of acorn; strips visible



## northern red oak

*Quercus rubra*

Status: Native

Code: QURU5



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**Bark:** gray/brown, smooth when young; gray with flat-topped ridges, deep furrows with age

**Foliage:** alternate, simple, lobe with bristled tips, 4-8" long

**Twigs:** slender, red/brown, lenticels and lateral buds slightly raised, terminal bud pointed

**Fruit:** acorn with shallow cap, mature in autumn after two seasons

## bitternut hickory

*Carya cordiformis*

Status: Native

Code: CACO15



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**Bark:** light gray/brown, smooth, lightly textured shallow fissures with age

**Foliage:** 5-7 leaflets, serrate, base leaflets smaller than terminal leaflet

**Twigs:** moderately stout, gray/brown

**Flower:** male: pendulous catkins, yellow/green; female: short spikes, green

**Fruit:** nut in leathery husk, green then brown, 4-sectioned spherical husks

## pecan

*Carya illinoensis*

Status: Non-native

Code: CAIL2



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**Bark:** brown with gray flecks, ridges, and color back more with age

**Foliage:** alternate, pinnately compound, thin-linear leaflets, pointed, slightly curved

**Twigs:** current year green, second year gray/brown

**Flower:** long, green strings of small flowers called catkins

**Fruit:** oblong, green husk, four sections

## shagbark hickory

*Carya ovata*

Status: Native

Code: CAOY2



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**Bark:** smooth gray when young, shredded shagging in long strips with age

**Foliage:** compound 5-7 leaflets, elliptic to oblong, serrate, 8-14" long

**Twigs:** reddish brown to gray, hairy, lenticels when young, gray/smooth with age

**Flower:** male: 3 branched catkins; female: flowered spikes

**Fruit:** hard shelled nuts in a 4 seamed husk; husk green, then black/brown



## black walnut

*Juglans nigra*

Status: Native

Code: JUNI



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**Bark:** dark brown/gray, narrow furrows (wood is highly prized)

**Foliage:** alternate, pinnately compound 10-20" long, generally missing terminal leaflet

**Twigs:** stout, light brown current twig fuzzy and bud, inside (pith) divided into tan cambers

**Fruit:** round green husk about golf ball sized, producing dark stain

## American basswood

*Tilia americana*

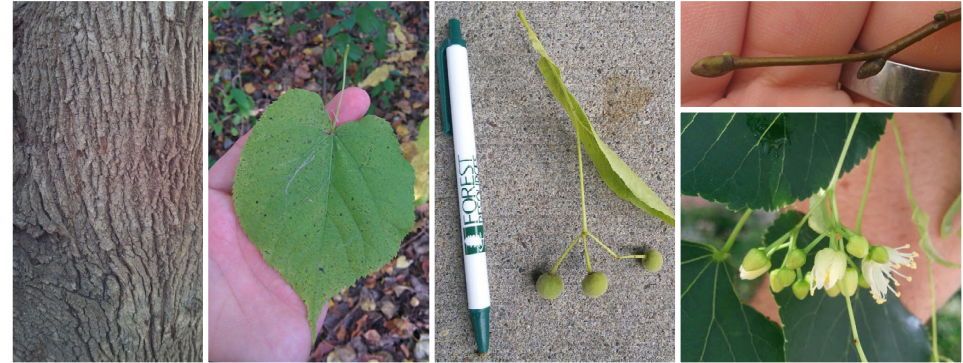
Status: Native

Code: TIAM



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**Bark:** smooth gray/red/brown when young, gray/brown and with shallow/narrow ridges

**Foliage:** alternate, simple; somewhat heart-shaped with a pointed tip, toothed edges

**Twigs:** slender, slight zig-zag appearance; terminal bud round, may be green or red

**Flower:** small white, bell-shaped, fragrant

**Fruit:** small nutlet under leafy bract, green turning brown

## silver linden

*Tilia tomentosa*

Status: Non-native

Code: TITO



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**Bark:** young bark is light gray, smooth; old bark is ridged, furrowed, gray/brown

**Foliage:** 2-5" long and wide, simple leaves, dark green top, light fuzzy bottom

**Twigs:** short stems covered in soft white hair

**Flower:** yellowish white flowers, fragrant

**Fruit:** egg-shaped, white, pubescent

## white mulberry

*Morus alba*

Status: Non-native

Code: MOAL



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**Bark:** young bark appears orange/brown, older bark gray to light brown, fissured

**Foliage:** green, glossy, serrated, can have no lobes or several lobes

**Twigs:** green to green/brown, small hairs or mostly smooth

**Flower:** yellowish green, small pendulous catkins

**Fruit:** 0.5-1" long; white, pink, red or purple



## white ash

*Fraxinus americana*

Status: Native

Code: FRAM2



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**Bark:** gray/brown with interlacing ridges

**Foliage:** 5-7 leaflets, oval, dark green with smooth edges

**Twigs:** gray/green with lateral buds set deep in leaf scar (like a smile)

**Flower:** small, green/purple, clusters at branch ends, lacking petals

**Fruit:** canoe paddle shaped samara, seed long and narrow

## green ash

*Fraxinus pennsylvanica*

Status: Native

Code: FRPE



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**Bark:** gray with narrow interlaced ridges (smooth when young)

**Twigs:** stout, current year greenish; leaf scar has flat-top, terminal bud large, brown, pointed

**Foliage:** opposite, pinnately compound, 5-9 leaflets

**Fruit:** single winged seed, "canoe paddle" shaped; often hanging in groups when present

## Serviceberry, Juneberry

*Amelanchier spp.*

Status: depends on variety

Code: AMELA



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**Bark:** smooth gray, slight textured with age

**Foliage:** dark or light green, broadly oval with smooth to serrated edges

**Twigs:** gray/red smooth and slender

**Flower:** white flowers

**Fruit:** small, red/purple pomes, appearing in June

## black chokeberry

*Aronia melanocarpa*

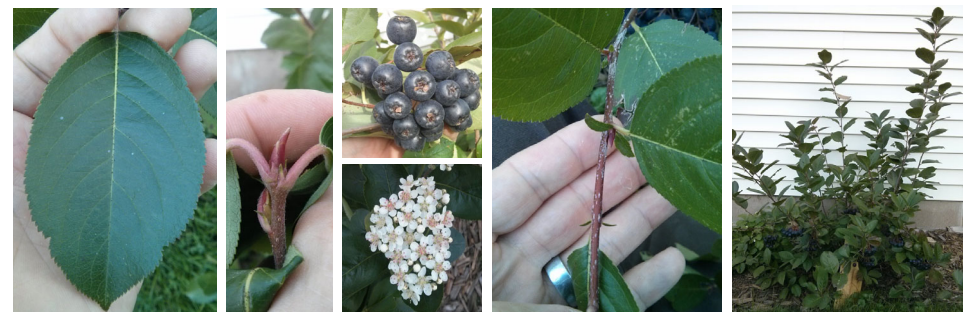
Status: Native

Code: ARME13



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**Bark:** red/brown becoming gray with age

**Foliage:** dark lustrous green, oval with pointed tip, serrate leaf

**Twigs:** red/brown, slender and smooth (glabrous)

**Flower:** white with pink anthers and five petals

**Fruit:** dark purple pome, ripening fall



## hawthorn

*Crataegus spp.*

Status: depends on variety

Code: CRATA



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**Bark:** gray. brown/gray, broken into narrow, thin plate-like scales, possible thorns

**Foliage:** serrate or doubly serrate, ovate or lobed

**Twigs:** compound or simple thorns may be present

**Flower:** 6-30 flowers, 5 cream colored petals, can be white, yellow or pink/red

**Fruit:** "berry", light orange-red to deep red, similar to crabapple

## apple

*Malus spp.*

Status: depends on variety

Code: MALUS



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**Bark:** smooth gray or reddish, then flat strips or thin blocky plates when older

**Foliage:** green, or green/red to purple—species/variety dependent

**Twigs:** range from reddish to gray

**Flower:** various: white, pink or purple; perfect flowers with 5 petals

**Fruit:** pome (apple); size and color are variety dependent

## wild plum, American plum

*Prunus americana*

Status: Native

Code: PRAM



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**Bark:** gray with longer flaky/platy stripes

**Foliage:** dark green, oval with pointed tip, serrated edges

**Twigs:** gray, with side twigs developing sharp points/thorns

**Flower:** white flowers, groups of 2-5, fragrant; appearing in spring

**Fruit:** purple/red, 1" wide, yellow interior flesh

## black cherry

*Prunus serotina*

Status: Native

Code: PRSE2



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**Bark:** shiny, dark with lenticels when young, older dark curling scales ("burnt potato chip")

**Foliage:** alternate, simple, narrow with serrate edge, orange hairs underside along vein

**Twigs:** shiny red/brown with lenticels, red/brown bud, smells of almond when scratched

**Flower:** long, narrow grouping of small/white flowers

**Fruit:** small, red/purple, found in clusters



## eastern cottonwood

*Populus deltoides*

Status: Native

Code: PODE3



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**Bark:** gray, thick deep furrows with a flat-topped ridge

**Foliage:** alternate, simple, triangular shape with rounded teeth, green, shiny, flat stem

**Twigs:** gray/green with “bumpy” leaf and bud scar, large sticky yellow/green buds

**Fruit:** tufted-cottony seeds (female only)

## quaking aspen

*Populus tremuloides*

Status: Native

Code: QUTR5



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**Bark:** smooth white/green when young, develops dark gray ridges and furrows with age

**Foliage:** alternate, simple round with toothed edge, flat stem

**Twigs:** current year red/brown, terminal bud small pointed with obvious scales

**Flower:** long “fluffy” gray/white, with red and green

**Fruit:** “fluffy” cottony seed

## willow

*Salix spp.*

Status: depends on species

Code: SALIX



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**Bark:** smooth gray when young, coarse and furrowed with age

**Foliage:** serrate round or oval leaves; green on top and lighter underneath

**Twigs:** green in current year to reddish brown in later years; lateral buds only

**Flower:** male and female catkins on separate plants, color is species dependent

**Fruit:** 1/16” conical, brown capsule

## boxelder

*Acer negundo*

Status: Native

Code: ACNE2



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**Bark:** light orange/brown with slight fissures when young; ridged and furrowed, dusty brown when mature

**Foliage:** opposite, pinnately compound leaflets slightly lobed or coarsely toothed

**Twigs:** current year green or purple, waxy white coat. Buds hidden under leaf-stem

**Fruit:** paired “helicopters” (samaras) green to brown persisting in winter



## Norway maple

*Acer platanoides*

Status: Non-native

Code: ACPL



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**Bark:** gray/brown and smooth when young; dark and deeply furrowed with age  
**Foliage:** opposite, simple, 3-5" wide, pointed lobes, wavy edge (cultivars— red/maroon)  
**Twigs:** brown, rounded terminal buds. Current year green, gray/brown with age  
**Flower:** yellow/green flowers  
**Fruit:** "helicopters" (samaras) are 2", green to brown, 'mustache' shaped

## red maple

*Acer rubrum*

Status: Native

Code: ACRU



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**Bark:** smooth, light gray when young, darker gray and furrowed at maturity  
**Foliage:** 3 lobes per leaf, pointed, edges serrated, sinuses shallow and broad  
**Twigs:** smooth red/brown in current year's growth, then smooth gray following years  
**Flower:** emerge in spring, yellow/green to red/pink with petals  
**Fruit:** paired 'helicopters' (samaras), ripening in spring

## silver maple

*Acer saccharinum*

Status: Native

Code: ACSA2



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**Bark:** smooth, silvery gray when young; develops thin, gray strips with age  
**Foliage:** alternate, simple with lobes and coarsely toothed; underside silvery gray  
**Twigs:** slender, red/brown in current year, smooth gray by year two  
**Flower:** brown/red small in clusters  
**Fruit:** paired "helicopters" (samaras) in spring

## sugar maple

*Acer saccharum*

Status: Native

Code: ACSA3



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**Bark:** gray smooth when young; gray/brown with irregular platy ridges at maturity  
**Foliage:** green, with 3-5 lobes; edges smooth  
**Twigs:** red/brown with lenticels, turning gray with age  
**Flower:** small green/yellow, on long dangling stems, lacking petals  
**Fruit:** paired "helicopter" (samaras) with bright green seed; horse-shoe shaped



## Amur maple

*Acer tartaricum*

Status: Non-native

Code: ACTA80



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**Bark:** smooth, gray when young, develops narrow irregular ridges with age

**Foliage:** opposite, simple, lobed (usually three), with middle lobe longer than wide

**Twigs:** very slender, yellow/green or red/brown; terminal bud pointed but very small

**Flowers:** yellow/green, small, clustered

**Fruit:** paired "helicopters" (samaras); many, persisting in winter

## hackberry

*Celtis occidentalis*

Status: Native

Code: CEOC



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**Bark:** grayish, with distinct hard-corky ridges

**Foliage:** alternate and simple, serrated edge, uneven base, nipple gall is common

**Twigs:** twigs slender, slightly zigzagged

**Flower:** small/inconspicuous

**Fruit:** dark purple berry-like with hard seed

## American elm

*Ulmus americana*

Status: Native

Code: ULAM



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**Bark:** grayish (often white streak present), furrowed ridges. "Bacon" pattern when cut

**Foliage:** alternate, simple, doubly serrate edges, uneven at base, tip pointed

**Twigs:** slender, reddish brown in current year

**Bud:** red/brown pointed, non-hairy

**Flower/fruit:** circular, small, papery with hairs and notch at top

## Siberian elm

*Ulmus pumila*

Status: Non-native

Code: ULPU



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**Bark:** gray with irregular shallow furrows; often with tan/white wet wood streaks

**Foliage:** dark green, small oval with a pointed tip, double serrated edges

**Twigs:** very slender, gray/brown; numerous small twigs; zig-zag appearance

**Flower:** green, in clusters and drooping; small

**Fruit:** small circular samaras with papery wings, deep notches, often numerous



## European buckthorn

*Rhamnus cathartica*

Status: Non-native

Code: RHCA3



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**Bark:** smooth, red/brown with lenticels, darker and scaly on older trees

**Foliage:** opposite, sub-opposite, alternate, simple, serrate edge

**Twigs:** thin, gray, two terminal buds with thorn between, lateral buds often on spur shoots

**Flower/fruit:** round, shiny purple/black, berry-like

## Ohio buckeye

*Aesculus glabra*

Status: Native

Code: AEGL



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**Bark:** light gray develops light corky layer, brown and furrowed on older trees

**Foliage:** opposite, palmately compound, leaflets long, slightly narrow with pointed tip

**Twigs:** stout, with large non-sticky, pointed brown bud, large shield shaped leaf-scar

**Flower:** upright grouping of green/yellow flowers

**Fruit:** smooth/spiny husk with brown nut

## horse chestnut

*Aesculus hippocastanum*

Status: Non-native

Code: AEHI



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**Bark:** gray/brown with stiff scaly patches as trees age

**Foliage:** opposite, palmately compound, large; narrow at base with round end

**Twigs:** stout, gray, with sticky and shiny buds

**Flower:** upright flowers, large and white

**Fruit:** spiny husks with leather brown nuts

## pawpaw

*Asimina triloba*

Status: Non-native

Code: ASTR



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**Bark:** gray with thin and irregular ridges; smoother when young

**Foliage:** simple, alternate, large up to 12", smooth but wavy edge, pointed tip

**Twigs:** current year green and hairy, previous year gray, terminal bud no scales, lateral

**Flower:** bell-shaped, soft reddish brown

**Fruit:** oval, 4" long, yellow turning brown, sweet



## northern catalpa

*Catalpa speciosa*

Status: Non-native

Code: CASP8



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**Bark:** reddish when young, gray/brown with age, shallow irregular fissures/ridges

**Foliage:** whorled, simple, very large heart shaped, with smooth edges

**Twigs:** Stout, buds and leaf-scars arranged in a whorled pattern

**Flower:** large and white, with purple/orange

**Fruit:** long, thin “string-bean” in fall and winter

## buttonbush

*Cephalanthus occidentalis*

Status: Native

Code: CEOC2



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**Bark:** gray/brown or green, smooth, becoming rough/shaggy with age

**Foliage:** deciduous, oval or narrowly oval coming to point

**Twigs:** moderately stout, slightly hairy to smooth, gray/brown or green, lenticels

**Flower:** globe of many obvious white flowers

**Fruit:** globe shaped mass of nutlets—often persisting through winter

## eastern redbud

*Cercis canadensis*

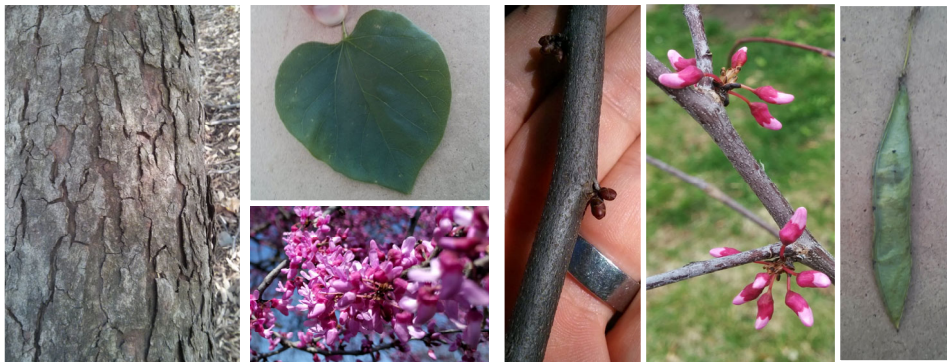
Status: Non-native

Code: CECA4



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**Bark:** smooth red/gray when young; red/brown and scaly/platy when mature

**Foliage:** alternate, simple, heart-shaped with smooth edge

**Twigs:** slender, red/gray. Flower/lateral buds reddish, small, held tight to branch

**Flower:** pink/red, small, in groups tight to twig

**Fruit:** small pod, legume

## yellowwood

*Cladrastis kentukea*

Status: Non-native

Code: CLKE



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**Bark:** silver-gray, sometimes a blackened color, smooth, slightly rougher with age

**Foliage:** alternate, pinnately-compound, leaflets oval

**Twigs:** current year chocolate brown, then gray; buds hidden under leaf stem

**Flower:** white clusters, drooping

**Fruit:** pods hanging in clusters, legumes



## Amur Maackia

*Maackia amurensis*

Status: Non-native

Code: MAAM9



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**Bark:** orange to greenish, oval peeling outer layer

**Foliage:** alternate, pinnately compound leaflets; emerging spring leaves are fuzzy silver

**Twigs:** current year's growth gray/brown, slight zigzag

**Bud:** pointed green/purple, slightly flat

**Flower:** small white upright grouping

**Fruit:** small seed pod, green turning to brown

## black locust

*Robinia pseudoacacia*

Status: Non-native

Code: ROPS



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**Bark:** gray/brown furrowed, with rope-like ridges, may appear orange under the ridge

**Foliage:** alternate, pinnate compound, board-oval leaflets with smooth edges, light green

**Twigs:** thin, with small spines at the base of buds along the twig

**Flower:** white flowers, very fragrant

**Fruit:** brown seed pod, legume

## Callery pear

*Pyrus calleryana*

Status: Non-native

Code: PYCA80



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**Bark:** reddish brown with narrow ridges, blocky-plates with age

**Foliage:** alternate, simple; oval to round with pointed tip, glossy green

**Twigs:** moderately stout, brown with lenticels; terminal bud round, white, fuzzy

**Flower:** small, white with pink, "stinky"

**Fruit:** small round, brown with lenticels

## Japanese pagoda tree

*Styphnolobium japonicum*

Status: Non-native

Code: STJA



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**Bark:** black-locust-like, except pale grayish-brown in color

**Foliage:** 7-17 leaflets, top is shiny, bright to medium green; grayish green bottom

**Twigs:** slender and smooth, solid greenish pith, grayish lenticels

**Flower:** creamy white, mildly fragrant, blooms July to mid-August

**Fruit:** bright green pod in between each seed, bumpy/bubbly pod, 3-6 seeds per pod



## pagoda dogwood, alternate-leaf

*Cornus alternifolia*

Status: Native

Code: COAL2



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**Bark:** smooth with gray/brown streaks on green

**Foliage:** alternate, round to oval with distinct arched veins, smooth edge

**Twigs:** slender, green/brown; form is tiered branches

**Flower:** small, creamy white, blooming in groupings in late spring

**Fruit:** starts green, matures to a dark purple on a red stalk

## red-osier dogwood

*Cornus sericea*

Status: Native

Code: COSE16



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**Bark:** thin with lenticels, red color with sunlight and green color in shade

**Foliage:** ovate, veins curve towards leaf tip, red petiole, long silky strands in veins

**Twigs:** slender; green, red or both; red branches typically exposed to sunlight

**Flower:** flat-top grouping of terminal flower buds, small white flowers

**Fruit:** spherical white or cream-colored drupe, found in clusters

## Cornelian-cherry

*Cornus mas*

Status: Non-native

Code: COMA



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**Bark:** grey/brown and flaky

**Foliage:** egg-shaped, pointed tip, wedge shaped base, dark green top and light green below with long appressed hairs

**Twigs:** angles, green, reddish streaks, short appressed hairs

**Flower:** dense, short-stalks, 4 yellow bracts at cluster base, yellow petals

**Fruit:** 1/2" long, cherry-red coloring

## gray dogwood

*Cornus racemosa*

Status: Native

Code: CORA6



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**Bark:** gray, smooth; slightly rougher with age

**Foliage:** oval shape, pointed tip, veins start at midrib and curve towards apex

**Twigs:** gray or reddish brown, slender

**Flower:** white, spherical to pyramidal shape

**Fruit:** spherical "berry" (drupe), white to pale blue, fruit stems bright red



**persimmon**  
*Diospyros virginiana*

Status: Non-native

Code: DIVI



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**Bark:** square-ish thick blocky bark, dark brown or black in color, with orange fissures  
**Foliage:** glossy on top, pale wooly underside, oval shaped with fuzzy petiole  
**Twigs:** slightly zig-zag, flexible, gray/brown in color  
**Flower:** bell-shaped, .5" long, petals come in sets of four and curve out  
**Fruit:** large, yellow orange round berries that wrinkle when ripe

**ginkgo**  
*Ginkgo biloba*

Status: Non-native

Code: GIBI2



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**Bark:** light gray with ridges, corky to touch  
**Foliage:** alternate, simple with thin veins, fan-shaped with deep "notch" or lobe  
**Twigs:** gray with spur-shoots and cone-shaped bud, lacking fine twigs or twiggy appearance  
**Fruit:** fleshy cone, green then yellow/orange, stinks when crushed (female only)

**witch-hazel**  
*Hamamelis virginiana*

Status: Native

Code: HAV14



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**Bark:** smooth gray/brown; older stems have rough texture from lenticels  
**Foliage:** wavy edges, large-toothed, broad elliptical shape, 3-6" long, 2-3.5" wide  
**Twigs:** light gray/brown slightly hairy, zig-zag appearance  
**Flower:** yellow to yellowish green with thin, strappy petals  
**Fruit:** distinctive, woody capsule containing 2 seeds, 4 rounded points at end

**tulip-poplar (yellow-poplar)**  
*Liriodendron tulipifera*

Status: Non-native

Code: LITU



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**Bark:** gray, smooth or lightly textured when young; then interlacing furrows  
**Foliage:** 4-lobed with a rounded base, 3-8" wide, distinctive shape  
**Twigs:** slender or stout, shiny green or red/brown, then gray, stipules and scars  
**Flower:** yellow/green petals (6), orange interior, 3" tall  
**Fruit:** narrow, conical, aggregate of samaras, green then brown, 3" long



## magnolia

*Magnolia spp.*

Status: depends on variety

Code: MAGNO



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**Bark:** gray and smooth, older bark may become scaly or cracked

**Foliage:** round, slightly wavy appearance, smooth edges

**Twigs:** gray, smooth, moderately stout

**Flower:** generally showy display throughout entire canopy, white, pink, purple

**Fruit:** large, round, red seeds

## American sweetgum

*Liquidambar styraciflua*

Status: Non-native

Code: LIST2



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**Bark:** gray/brown, smooth developing deep furrows with rounded ridges

**Foliage:** green, star-shaped with 5-7 pointed lobes

**Twigs:** moderately stout, red to yellow/brown, often with corky-wings, aromatic

**Flower:** female: rounded and 2-beaked, male: upright, panicle

**Fruit:** globe-shaped, opening into beak-like structure; hanging on 2-3" stems

## Osage-orange

*Maclura pomifera*

Status: Non-native

Code: MAPO



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**Bark:** brown-orange with thin ridges; darker and irregular fissures with age

**Foliage:** ovate, coming to a point, smooth edge, up to 6" long

**Twigs:** moderately stout, tan/brown, spines at the base of buds/leaves, milky sap

**Flower:** male and female on separate plants, wind pollinated

**Fruit:** round, green drupes; large—softball size

## Amur corktree

*Phellodendron amurense*

Status: Non-native

Code: PHAM2



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**Bark:** very corky in feel, furrowed/ridged, light gray

**Foliage:** opposite, pinnately compound, 10-15" long, 5-11 leaflets, smooth edges.

**Twigs:** stout, reddish to reddish-gray on current growth, bud hidden under leaf stem

**Flower/fruit:** female only: small drupe, green to purple/black at maturity



## American sycamore

*Platanus occidentalis*

Status: Non-native

Code: PLOC



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**Bark:** mottled brown/white/green, flaking/patchy, with creamy/white smooth underside

**Foliage:** alternate, simple 4-8" wide, lobed (like maple), coarse toothed edge

**Twigs:** slender, false terminal bud, single bud-cap, lateral buds hidden under leaf-stem

**Fruit:** round "ball" of many tightly packed seeds, persists in winter

## staghorn sumac

*Rhus hirta (Rhus typhina)*

Status: Native

Code: RHTY



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**Bark:** red/brown and velvety with young; brown with lenticels when older

**Foliage:** large leaf with 13-27 leaflets, bright green with serrated edges

**Twigs:** current year very fuzzy, center has large pith

**Flower:** green/yellow, hairy with male and female on separate plants

**Fruit:** upright, conical grouping of bright red hairy drupes

## fragrant sumac

*Rhus aromatica*

Status: Non-native

Code: RHAR



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**Bark:** red-brown, smooth or scaly with lenticels, old stems have shallow furrows

**Foliage:** large terminal leaflet, two smaller lateral leaflets, covered in brown hairs

**Twigs:** somewhat zigzag, red brown, strong odor when broken, dense, velvety

**Flower:** lemon-drop-like clusters, light yellow or brownish, at branch tips

**Fruit:** dark wine-red berries, spherical

## Japanese tree lilac

*Syringa reticulata*

Status: Non-native

Code: SYRE2



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**Bark:** smooth red/brown, with lenticels, developing small rectangular block with age

**Foliage:** opposite, simple, smooth edge, oval coming to a tip

**Twigs:** brown with lenticels, often two terminal buds, with obvious scales

**Flower:** small, showy white horizontal grouping, very fragrant

**Fruit:** capsules, splits in two



## common lilac

*Syringa vulgaris*

Status: Non-native

Code: SYVU



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**Bark:** shiny brown when young, gray with age, small raised lenticels

**Foliage:** 2-5" long leaves, dark green

**Twigs:** small, raised lenticels, shiny brown

**Flower:** showy pink or purple flowers, very aromatic

**Fruit:** small split seed pod capsules

## yew

*Taxus* spp.

Status: depends on species

Code: TAXUS



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**Bark:** thin, flaky plates, red/brown

**Foliage:** dark green upper, light green/yellow under; flat with pointed tip

**Twigs:** flexible, yellow/green

**Fruit:** fleshy, red cups surrounding a bluish seed

## arrowwood

*Viburnum dentatum*

Status: Non-native

Code: VIDE



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**Bark:** gray to gray/brown at maturity

**Foliage:** shiny dark green leaves are oval or oblong shaped with toothed margins

**Twigs:** slender and angled

**Flower:** white with yellow stamens, look like creamy white flowers

**Fruit:** blue-black drupes, 0.25" in size

## nannyberry

*Virburnum lentago*

Status: Native

Code: VILE



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**Bark:** brown/black with slight patchy pattern

**Foliage:** round with pointed tip, serrate edge, stem has bumpy wings/ridges

**Twigs:** slender, brown, can be slightly hairy

**Flower:** small white clusters

**Fruit:** oval drupe, green to purple when ripe





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