IDENTIFYING TREES OF MICHIGAN

E2332 Revised 2025

MICHIGAN STATE UNIVERSITY | Extension

IDENTIFYING TREES OF MICHIGAN

Introduction

Forests are a critical feature of Michigan's landscape. About 19 million acres, or 53% of the state's land area, are covered in some kind of forest. They collectively contribute to many benefits: habitat for various types of wildlife, filter systems for air and water quality, places for recreation opportunities, and all kinds of wood products we use every day.

Michigan's forests are diverse. More than 75 different native species of trees grow in the state, with many others that are planted from other parts of the country—and the world! Not all trees can be found in all locations, though, because different species prefer different sites and environments. This publication briefly describes 69 of the more common trees found in Michigan. Although this guide was written and designed for upper elementary audiences, it will help anyone with an interest in tree identification become better acquainted with some of the most important trees in the state. Illustrations, identification keys, and other descriptive information will help make identification easier out in the forest, in a backyard, or along the road.

Acknowledgments

This bulletin is a revised version of Michigan State University Extension's E2332, *Identifying Trees of Michigan* (2001), edited by Dr. Mel Koelling, Professor Emeritus, MSU Department of Forestry.

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Michigan occupies the ancestral, traditional, and contemporary lands of the Anishinaabeg – Three Fires Confederacy of Ojibwe, Odawa, and Potawatomi peoples. In respect to the Anishinaabeg, we have included Anishinaabemowin names of the trees (where available). We encourage you to learn more about Michigan Tribal Nations and Indigenous cultures by connecting with Native American/Indigenous people in your area. To find out more about the federally recognized tribes in Michigan, visit https://www.unitedtribesofmichigan.com/other-resources/.

Contents

TREE IDENTIFICATION KEYS FOR WINTER AND SUMMER

Introduction and Directions

A tree identification key is a tool to help people identify trees when they're not sure where to start. It is set up to help students, forest owners, and other interested people identify the commonly encountered trees in Michigan. There are 69 different tree species featured in these identification keys, yet there are many other trees that might be found in any given area. So be sure to keep an open mind!

Have binoculars on hand, in case leaf **buds**, flowers, or twig features are too high up to see. Also, some characteristics may look a little different from what the key describes based on the weather, location in the state, time in the season, or pest or disease damage.

To begin, choose the summer (growing season) or winter (dormant season) key based on the time of year.

- Start with features that are listed with Roman numerals (I or II.). Choose the feature that best fits what you are seeing.
- Then go to the next step (capital A, B, C, and so on) under that choice. Take a look at those options.
- Again, choose the feature with the best fit (1, 2, or 3).
- Continue with additional details until you come to a suggested tree species.
- Then go to the longer description in the manual to see if it fits the tree you are trying to identify. (The page number is listed next to the tree species in the key.) If it doesn't seem quite right, you can go back and try again by looking at the descriptions of other trees that seem similar.

If you are unfamiliar with any terms in the descriptions, check the glossary at the end of this bulletin. Words that appear in the glossary are bolded in the main text.

SUMMER TREE KEY (GROWING SEASON)

I. Trees with needlelike or scale-like leaves; fruit a cone, or conelike (conifers)
  A. Leaves needlelike
    1. Leaves in bundles or on clusters
      a. Leaves in bundles
        (1) Leaves or needles in fives — **eastern white pine (14)**
        (2) Leaves or needles in twos
          (a) Leaves 4- to 6-inches long — **red pine (16)**
          (b) Leaves 1- to 2-inches long
            (i) Bark dark brown-grey; young cones tight and curved — **jack pine (15)**
            (ii) Bark orange near top of tree — **Scots/Scotch pine (17)**
      b. Leaves in bunched clusters, soft and flexible, shed in fall — **tamarack/larch (22)**
    2. Leaves not in bundles
      a. Leaves flattened
        (1) Leaves 1/2-inch long; cones less than 1 inch long and hang down — **eastern hemlock (13)**
        (2) Leaves 3/4-inch long; cones 2- to 3-inches long and erect — **balsam fir (12)**
      b. Leaves four-sided
        (1) Branchlets smooth; needles 1/2- to 1-inch long
          (a) Leaves green
            (i) Branchlets upright — **white spruce (20)**
            (ii) Branchlets droopy — **Norway spruce (19)**
          (b) Leaves bluish — **Colorado blue spruce (21)**
        (2) Branchlets hairy; needles 1/4- to 3/4-inch long — **black spruce (18)**
  B. Leaves scale-like
    1. Branchlets flattened in fanlike sprays; cone reddish brown — **northern white-cedar (11)**
    2. Branchlets angled and pointy; fruit berrylike and dark blue — **eastern red cedar (10)**

II. Trees with broad, flat leaves (broadleaf trees)
  A. Leaves compound
    1. Leaves on opposite side from each other on branch
      a. Palmately compound
        (1) Seven coarsely serrated leaflets — **horse chestnut (44)**
        (2) Usually five finely serrated leaflets — **Ohio buckeye (46)**
      b. Pinnately compound

SUMMER TREE KEY (GROWING SEASON) CONTINUED

(1) Leaf margins finely toothed
(a) Leaflets attached to central stem by a long petiole — **white ash (25)**
(b) Leaflets directly attached to central stem — **black ash (24)**
(2) Leaf margins coarsely toothed or lobed; young twigs often purplish or greenish — **boxelder (61)**

2. Leaves alternating along branch
a. Leaflets small, less than 2 inches long
(1) Leaf double-compound; branches have thorns — **honey locust (57)**
(2) Leaf single-compound
(a) Fruit a pod; branches have thorns — **black locust (56)**
(b) Fruit a fleshy orange berry, no thorns — **mountain-ash (23)**
b. Leaflets large, more than 2 inches long
(1) Leaf double-compound; fruit a big leathery pod — **Kentucky coffeetree (58)**
(2) Leaf single-compound
(a) Fruit a cluster of fuzzy red berries; branchlets fuzzy — **staghorn sumac (77)**
(b) Fruit a nut
(i) Twigs have chambered pith with fuzzy buds — **black walnut (31)**
(ii) Twigs have solid pith with smooth buds
*Buds pointy and bright yellow; bark tight ridges — **bitternut hickory (52)**
Buds brown and fat; bark peels off in plates — **shagbark hickory (53)

B. Leaves simple
1. Leaves on opposite side from each other on branch
a. Leaves have pointy lobes
(1) Leaf margins smooth
(a) Leaf lobes narrow and silvery underneath — **silver maple (64)**
(b) Leaf lobes wider
(i) Leaves large; leaf stem oozes milky sap when broken — **Norway maple (62)**
(ii) Leaves not as large; no milky sap — **sugar maple (66)**
(2) Leaf margins coarsely toothed
(a) Leaf relatively small; petiole reddish — **red maple (63)**
(b) Leaf relatively large; tree shrublike with stripes along stems — **striped maple (65)**
b. Leaves not lobed
(1) Large, heart-shaped; fruit a long beanlike pod — **northern catalpa (54)**
(2) Small to medium, ovate leaf; pagoda-shaped terminal buds — **flowering dogwood (47)**

SUMMER TREE KEY (GROWING SEASON) CONTINUED

2. Leaves alternating along branch
    a. Leaves lobed
        (1) Leaves as wide as they are long
            (a) Leaves are shaped in three ways: mitten-shaped, entire, and three-lobed; twigs aromatic — **sassafras (76)**
            (b) Leaves have four distinct lobes; buds shaped like duck bills — **tulip tree/yellow poplar (36)**
            (c) Leaves have very pointed lobes; bark mottled greenish, tan and cream colored — **American sycamore (78)**
        (1) Leaves longer than they are wide
            (a) Lobes pointed and bristle tipped; fruit an acorn with caps that are hairy inside
                (i) Leaf sinuses very deep; tree trunk straight with branches radiating directly from it — **northern pin oak (70)**
                (ii) Leaf surface very shiny; acorn cap scales fringed — **black oak (68)**
                (iii) Leaf sinuses shallower; smooth "ski tracks" running along trunk; acorn cap short with smooth scales — **northern red oak (71)**
            (b) Lobes rounded; fruit an acorn with caps that are smooth inside
                (i) Leaf underside light colored; located in wet areas — **swamp white oak (72)**
                (ii) Top part of leaf wider than base; buds have hairs; acorn cap fringed and covers over half the seed — **bur oak (69)**
                (iii) Lobes relatively same size along leaf; bark light grey and platy near top of tree; acorn cap warty — **white oak (73)**
    b. Leaves oblong, wider at tip than base; red-brown fuzzy buds — **pawpaw (75)**
    c. Leaves spade shaped (ovate)
        (1) Leaf petioles flattened
            (a) Leaf margin very finely toothed
                (i) Leaf tips very pointed; buds very fragrant — **balsam poplar/Balm of Gilead (28)**
                (ii) Leaf tips not pointed — **trembling aspen (27)**
            (b) Leaf margin coarsely toothed
                (i) Leaf triangle shaped — **eastern cottonwood (29)**
                (ii) Leaf more rounded; toothed margins distinctly toothed — **large-toothed aspen (26)**
            (c) Leaf margin entire (smooth); spines at the base of the buds — **Osage orange (74)**
        (2) Leaf petioles round

SUMMER TREE KEY (GROWING SEASON) CONTINUED

(a) Leaves with lopsided bases

(i) Margin doubly serrated

*Leaf 2- to 4-inches long; dark green, smooth and shiny; older twigs have corky wings — **rock elm (49)**

Leaf 4- to 6-inches long; leaves not shiny; tree has vase-shaped form — **American elm (48)

***Leaf 5- to 7-inches long; leaf is very rough, like sandpaper — **slippery elm (50)**

(ii) Margin single serrations

*Leaf smallish and rough; bark has warty bumps — **hackberry (51)**

Leaf heart-shaped and wide; buds are large and red; sprouts often found at base of trunk — **American basswood (33)

(b) Leaves with equal bases

(i) Margin smooth (entire); seeds in brown pea pods — **Eastern redbud (55)**

d. Leaves elliptical or lance-shaped

(1) Leaf long and lance-shaped; found near wet areas — **black willow (37)**

(2) Leaf not lance-shaped

(a) Margin finely serrated

(i) Fine brown hairs on the underside of leaf along midrib

* Purple berries; “burnt potato chip” bark — **wild black cherry (41)**

(ii) No hairs on underside

*Branches stout

.fruit various sizes of apples — **apple/crabapple (32)**

..leaf may have rounded, irregular margins; fruit a cluster of red or purple drupes — **red mulberry (67)**

*Branches slender

. Berries red rather than purple — **pin cherry (43)**

.. Rounder leaves; shrubby form — **chokecherry (42)**

... Bark shreddy; fruit a papery cluster of winged seeds — **Ironwood/Eastern hophornbeam (60)**

.... Bark smooth, blue-grey; trunk feels like a muscled arm — **musclewood/blue beech (59)**

(b) Margin coarsely serrated

(i) Margin doubly serrated

* Bark smooth and white with black patches — **paper birch (39)**

** Bark glossy and copper-colored near top of tree; twigs smell like wintergreen — **yellow birch (40)**

SUMMER TREE KEY (GROWING SEASON) CONTINUED

***Bark peach to light gray colored that peels into ragged sheets	**river birch (38)**
****Bark grayish brown with flaky bark, branches have ½ to 1-inch long thorns	**common hawthorne (34)**
(ii) Margin not doubly serrated	
* Buds very narrow and pointed; bark smooth and blue-grey	**American beech (30)**
** Serrations have curved hairy tips; fruit enclosed in very sharp spiny balls	**American chestnut (45)**

WINTER TREE KEY (DORMANT SEASON)

I. Leaves green, needlelike or scalelike
- A. Leaves scalelike
  - 1. Flat, smooth — **northern white-cedar (11)**
  - 2. Pointed, sharp — **eastern red cedar (10)**
- B. Leaves are needles
  - 1. Leaves (needles) in bundles
    - a. Five needles per bundle — **eastern white pine (14)**
    - b. Two needles per bundle
      - (1) Needles short, twisted; young cones tight and curved — **jack pine (15)**
      - (2) Needles short; orange bark — **Scots/Scotch pine (17)**
      - (3) Needles long; breaks cleanly when bent — **red pine (16)**
  - 2. Leaves (needles) single
    - a. Round needles, pointed tips
      - (1) Needles very short, less than 1 inch long — **black spruce (18)**
      - (2) Needles at least 1 inch long
        - (a) Bluish color — **Colorado blue spruce (21)**
        - (b) Green color — **white spruce (20)**
        - (c) Drooping branches — **Norway spruce (19)**
    - b. Flat needles; rounded tips
      - (1) Needles same length; citrus scent — **balsam fir (12)**
      - (2) Needles different lengths; short — **eastern hemlock (13)**

II. No green leaves
- A. Large warty bumps along slender branches — **tamarack/larch (22)**
- B. Branches and leaf scars oppositely arranged
  - 1. Stout twig; large terminal bud(s)
    - a. Terminal buds shaped like chocolate kisses; smaller companion buds on either side
      - (1) Bud lighter brown; scar U-shaped — **white ash (25)**
      - (2) Bud also darker brown, but scar slightly notched at top — **black ash (24)**
    - b. Terminal buds fat and pointed
      - (1) Terminal bud rounder, dark brown and sticky; twig darker brown — **horse chestnut (44)**
      - (2) Terminal bud tan with powdery coating — **Ohio buckeye (46)**

WINTER TREE KEY (DORMANT SEASON) CONTINUED

2. Slender, greenish, reddish or brown twigs; buds small
   - a. Youngest twigs are greenish, vertical white stripes — **striped maple (65)**
   - b. Youngest twigs reddish or purplish
     - (1) Terminal bud blunt and reddish — **red maple (63)**
     - (2) Terminal bud rounded; twigs have powdery coating — **boxelder (61)**
   - c. Youngest twigs brownish or grey
     - (1) Terminal buds are sharp and pointy — **sugar maple (66)**
     - (2) Terminal buds are less pointy; twigs smell bad when crushed — **silver maple (64)**
     - (3) Terminal buds are rounded, larger — **Norway maple (62)**
     - (4) Terminal buds are larger, onion-shaped — **flowering dogwood (47)**

C. Leaf scars whorled, cup-shaped; long bean-shaped seed pods — **northern catalpa (54)**

D. Branches and leaf scars alternately arranged

1. End twigs thick, greater than 0.5 inches
   - a. No terminal bud
     - (1) C-shaped leaf scar; new twigs fuzzy — **staghorn sumac (77)**
     - (2) Leaf scar three to five vein scars; two buds above leaf scar — **Kentucky coffeetree (58)**

2. End twigs medium thickness/stout, between 1/4 and 1/2 inch
   - a. Terminal buds in clusters
     - (1) Buds have pointed tips
       - (a) Buds shiny, reddish brown; bark has long, smooth “tracks” going down the length of the trunk — **northern red oak (71)**
       - (b) Buds have greyish wool on scales; acorn cups are fringed — **black oak (68)**
       - (c) Buds small; trunk straight with branches at right angles from it — **northern pin oak (70)**
     - (2) Buds have rounded tips
       - (a) Bark light grey with flaky plates near the top — **white oak (73)**
       - (b) Bark dark with ridges
         - (i) Buds and smaller twigs fuzzy — **bur oak (69)**
         - (ii) Buds not hairy; tree in wet soil — **swamp white oak (72)**
   - b. Only one terminal bud
     - (1) Terminal bud narrow, pointed
       - (a) Terminal bud long and yellow; fruit a nut with thin hull — **bitternut hickory (52)**
       - (b) Terminal bud purplish red and sticky; twig smooth and grey; fruit a bright orange berry — **American mountain-ash (23)**
     - (2) Terminal bud fat with one to two loose scales; bark shaggy — **shagbark hickory (53)**

WINTER TREE KEY (DORMANT SEASON) CONTINUED

(3) Buds rounded

(a) Buds fuzzy and round; branch pith chambered; fruit a dark ridged nut — **black walnut (31)**

(b) Buds small and blunt with hairy tips; fruit an apple — **apple/crabapple (32)**

3. End twigs thin, less than 1/4 inch

a. Catkins at end of branches

(1) Bark thin and smooth

(a) Bark bright white — **paper birch (39)**

(b) Bark glossy and yellowish; twigs smell like wintergreen when scratched — **yellow birch (40)**

(2) Bark flaky — **Ironwood/Eastern hophornbeam(60)**

(3) Bark peach to light gray colored, curling into papery sheets — **river birch (38)**

b. No catkins; terminal buds in clusters — **pin cherry (43)**

c. No catkins; one terminal bud

(1)Thorns, or thornlike twigs

(a) Thorns shorter than 3/4 inch long

(i) Thorns paired; short seed pods — **black locust (56)**

(ii) Thorns on zigzag twigs; green fleshy balls — **Osage orange (74)**

(b) Thorns greater than 3/4 inch long

(i) Some thorns branched; leaf buds extremely small — **honey locust (57)**

(ii) No branched thorns; buds are noticeable — **common hawthorne (34)**

(2) No thorns; buds have one or no visible scale

(a) Buds covered with dense, dark fuzzy hairs — **pawpaw (75)**

(b) Bud has single, caplike scale; twigs are brown-black; found in wet area — **black willow (37)**

(c) One scale completely covers bud; leaf scar completely circles bud; bark is mottled olive, grey and cream colored — **American sycamore (78)**

(3) Thornless; buds have two scales

(a) Bud duck bill-shaped; fruit a cone-shaped bundle of samaras — **tulip tree/yellow poplar (36)**

(b) Bud chestnut brown; twig has many lenticels; fruit husk is spiny (fruits brown nuts) — **American chestnut (45)**

(c) Bud red; twig zigzagged; shoots often found at the base of tree — **American basswood (33)**

(4) Thornless, buds have multiple scales

(a) Terminal buds waxy or sticky

(i) Very long terminal buds; very resinous and fragrant — **balsam poplar/Balm of Gilead (28)**

(ii) Buds aren't as long; very sticky — **eastern cottonwood (29)**

WINTER TREE KEY (DORMANT SEASON) CONTINUED

(iii) Buds shiny and pressed up against the twig — **trembling aspen (27)**

(iv) Buds grey and powdery, sticking away from twig — **large-toothed aspen (26)**

(b) Terminal buds not waxy or sticky

(i) Twigs grow in zigzags

*Bark warty; can grow very large; fruit a dark berry — **hackberry (51)**

Bark shreddy; small tree; roundish, hard flower buds along bark — **eastern redbud (55)

(ii) Twigs greenish and very fragrant — **sassafras (76)**

(iii) Twigs have lenticels

*Older bark flaky like “burnt potato chips;” lenticels are longer — **wild black cherry (41)**

** Tree small; lenticels not long — **chokecherry (42)**

(iv) Twigs fuzzy; buds brown — **red mulberry (67)**

(v) Twigs not fuzzy; they are tan or brown

* Downy, dark buds; inner bark slimy — **slippery elm (50)**

** Buds brown and smooth; tree shaped like a vase — **American elm (48)**

***Buds and flower buds plump and oval — **rock elm (49)**

(vi) Bark smooth and blue to grey

*Tree small; trunk feels like well-developed muscles — **musclewood/blue beech (59)**

Tree has very smooth bark with no ridges; buds very long and pointed — **American beech (30)

***Tree shrubby; small buds pressed up against twigs — **Juneberry/serviceberry (35)**

CONIFERS

THE CEDARS

Cedar trees are important to wildlife species for both forage and shelter. Cedar swamps are lowland wet areas that are warm in the wintertime and protect wildlife from exposure to wind and bad weather. Cedars produce a fragrant-smelling wood used for a variety of human purposes.

Eastern red cedar

Juniperus virginiana

The fragrant, rot-resistant wood of the Eastern red cedar is often chipped for animal bedding or to line closets and storage boxes. Cedar oil is distilled from the leaves and twigs.

The tree is a good nesting and roosting shelter for birds. The berries supply nutrition for many kinds of wildlife. This species can be found anywhere in the Lower Peninsula but is less common as you head north. This tree isn't very picky as long as there's enough sunlight, but it is most often found in dry sandy areas. It grows straight and narrow but doesn't get very tall in Michigan.

Even though the name includes the word cedar, it's actually in the juniper family. Weird.

Eastern red cedar trees are **native** to Michigan.

Deciduous or Coniferous?	**Coniferous**
Type of Leaf:	Sharp, **scale-like** flattened leaves that look like needles Pairs of leaves grow **opposite** on branch
Height at Maturity:	40–50 feet
Anishinaabemowin Word:	miskwaawaak
Claim-to-Fame:	Provides refuge to wildlife all year

Northern white-cedar

Thuja occidentalis

Homeowners like to plant this as an ornamental tree. The rot-resistant wood is often used for fence posts, house shingles, and siding for saunas.

White-tailed deer love to eat the leaves and small twigs. Pure stands of these trees create what is called *thermal cover*, sheltering wildlife from harsh winter conditions.

The natural range of this species begins in the middle of the Lower Peninsula, getting more common as you go north. It is most often found in wet areas but can also grow in rocky, shallow soils. It grows in a cone shape, rarely reaching over 2 feet in diameter. Another common name for cedar is *arborvitae*, which in Latin means the "tree of life."

Northern white-cedar trees are **native** to Michigan.

Deciduous or Coniferous?	**Coniferous**
Type of Leaf:	Soft, **scale-like**, closely overlapping Pairs of leaves grow **opposite** on branch
Height at Maturity:	50–60 feet
Anishinaabemowin Word:	giizhik
Claim-to-Fame:	Protector among trees

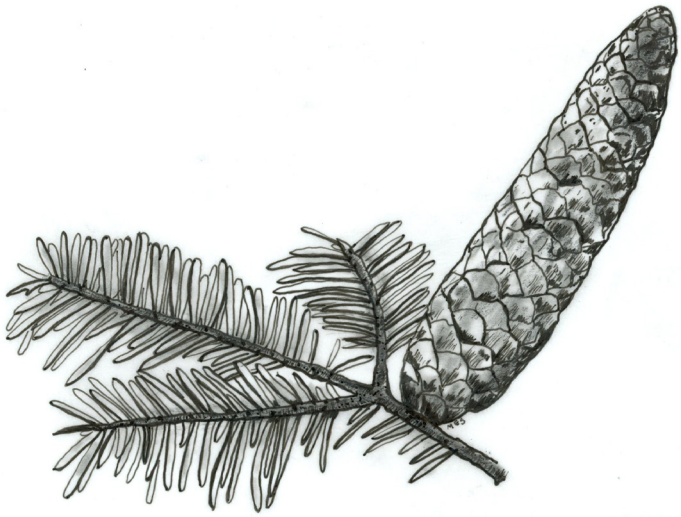
CONIFERS WITH TWO LINES

The next two **conifers** have one feature in common: They both have two light-colored lines that run parallel along the bottom of their flat needles. However, they are different species.

Balsam fir

Abies balsamea

The form and pleasant scent of this tree make it a good one for Christmas trees. The wood from balsam fir is often harvested with spruce to make paper.



Small animals and grouse like to eat the seeds. The natural range begins in the southern Lower Peninsula, getting more common as you go north. Balsam fir needs a cool, moist environment to survive. The pointed pyramid shape makes this species stand out among other trees in a forest. Older trees create pitch pockets, which look like blisters on the trunk. If you squeeze them, they shoot out sticky **sap**. This tree likes to hang out with spruces and aspens.

Deciduous or Coniferous?	**Coniferous**
Type of Leaf:	Flat on both sides, two white stripes underneath Grow in a spiral around branch
Height at Maturity:	60 feet
Anishinaabemowin Word:	aninaandag
Claim-to-Fame:	Nice smell

Eastern hemlock

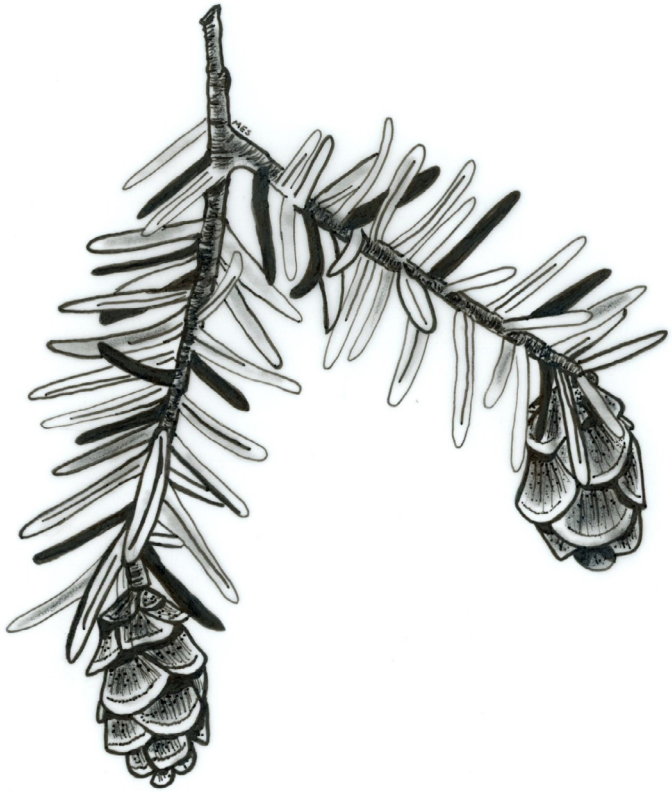
Tsuga canadensis

Hemlock bark contains lots of tannic acid that used to be in demand for tanning hides. Now, the wood is used for **pulp** and paper. Homeowners also plant it in their yards.

Dense hemlock forests are ideal winter cover for wildlife. They can be found along the western shore of the Lower Peninsula and more commonly as you go west in the Upper Peninsula. Eastern hemlocks need a cool, moist environment to survive.

This species can grow to 3 feet in diameter. It grows very slowly, sometimes taking over 250 years to reach maturity. Eastern hemlock trees can live up to 800 years in the right conditions.

Eastern hemlock trees are **native** to Michigan.



Deciduous or Coniferous?	**Coniferous**
Type of Leaf:	Flat needles are attached individually on branch Two racing stripes on underside of each needle
Height at Maturity:	100 feet or more
Anishinaabemowin Word:	gaagaagimizh
Claim-to-Fame:	Tiny cones; giant tree; lives very long

THE PINES

Some pine trees can live to be 1,000 years old. Pines are considered **evergreen** because all of their needles do not fall off each year like those of **broadleaf** or **deciduous** trees. Pine trees produce woody cones of different sizes. The size and structure of pine cones can help with identification of the tree.

Eastern white pine

Pinus strobus

This is an important tree for lumber, from flooring to trim to log homes. Homeowners also like to plant it in their yards.

Birds of prey use this tree for nesting and roosting, because the tree can grow tall. This gives them a better view to find their next meal.

The natural range of eastern white pine covers all of Michigan, but it's more common as you go north. It grows best in slightly moist, **rich soils**.

This tree can grow taller than any of its neighbors in the forest and over 3 feet in diameter. The large, horizontal branches and dominating height make it easy to spot from far away.

This is the largest pine found east of the Mississippi. White pine is the state tree of Michigan.

White pine trees are **native** to Michigan (but you knew I was going to say that).

Deciduous or Coniferous?	**Coniferous**
Type of Leaf:	Soft, long needles, blue-green color Five needles per bundle (spell out w.h.i.t.e.)
Height at Maturity:	150–200 feet
Anishinaabemowin Word:	zhingwaak
Claim-to-Fame:	Michigan state tree

Jack pine

Pinus banksiana

Jack pine is commonly harvested for **pulp** to make paper.

This species is important for Kirtland warbler habitat. The songbird needs a certain age of jack pines for its nesting sites.

It is found in the northern Lower Peninsula and in the Upper Peninsula in mostly very dry, sandy places with lots of open sunlight. A rather scrubby looking pine, it's a short-lived species that rarely grows taller than 80 feet and 2 feet in diameter. Jack pines depend on fire to reproduce. When the tight cones are heated, the "glue" that keeps the pine scales closed breaks up, and the seeds are then scattered on the recently burned, bare ground.

Can you believe this used to be a popular Christmas tree? Ouch!

Jack pine trees are **native** to Michigan.

Deciduous or Coniferous?	**Coniferous**
Type of Leaf:	Twisted needles, slightly yellowish-green Two short needles per **bundle**
Height at Maturity:	80–100 feet or more
Anishinaabemowin Word:	okikaandag
Claim-to-Fame:	Critical to the survival of the Kirtland's Warbler

Red pine

Pinus resinosa

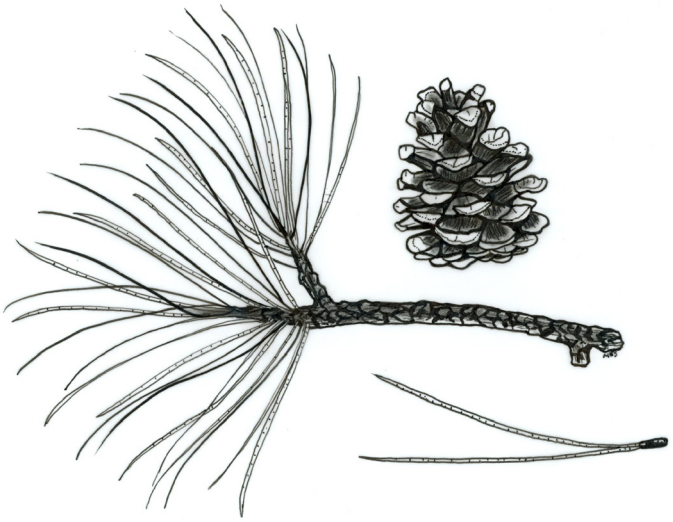
This sturdy pine grows very straight and tall, making it ideal for all kinds of wood products such as lumber, log cabins, and poles for power lines.

Squirrels and other small animals eat the seeds.

Its natural range begins in the Lower Peninsula, getting more common as you go north. They usually prefer dry, sandy soils but can tolerate more moisture than jack pines. Red pine can grow 2 to 3 feet in diameter.

Red pine can be confused with Austrian pine because the needles of both trees are similar. Austrian pine is not native to Michigan. If the needles break cleanly when you bend them, it's red pine. There are still many acres of red pine plantations across the state planted by the Civilian Conservation Corps about 80 years ago. Clumps of needles were used as figures and toys for children.

Red pine trees are **native** to Michigan.



Deciduous or Coniferous?	**Coniferous**
Type of Leaf:	Needles break off cleanly when bent Two long needles per **bundle**
Height at Maturity:	80 feet or more
Anishinaabemowin Word:	apakwanagemag; bapakwnagemag
Claim-to-Fame:	Used to make utility poles

Scots/Scotch pine

Pinus sylvestris

The Scots pine is also commonly known as Scotch pine. They are sometimes used as Christmas trees.

Squirrels and other small animals eat the seeds.

This tree can be found anywhere in the state. Scots pine grows best in sandy soils.

Scots pine and red pine have similar bark at the base, but look up! The bark near the top of mature Scots pine trees is the color of butterscotch. This color will help you tell the difference between a mature red pine and a mature Scots pine. Foresters consider this tree to be **invasive** because it outcompetes native tree species. It should be removed and replaced with a native tree such as red or white pine.

Scots pine trees are **native** to Asia and Europe.

Deciduous or Coniferous?	**Coniferous**
Type of Leaf:	Blue-green color; alternating spiral growth Two short needles per **bundle**
Height at Maturity:	60-80 feet
Claim-to-Fame:	Orange bark

THE SPRUCES

Spruce tree cones grow downward from branches and typically have paperlike scales. Spruce trees have thin, flaky, **scaly** bark, while other **conifer** trees have smooth bark. You can tell the spruce needles by their sharp, stiff needles **sprouting** directly from the branches.

Black spruce

Picea mariana

The wood fibers of black spruce are long and white, making it good for paper **pulp**.

The low-growing branches and clustered trees offer great wildlife cover.

The black spruce tree's natural range begins in the Lower Peninsula, becoming more abundant as you go north. It is usually found in cool marshes and bogs. It grows very slowly. Black spruce needles are very short—much shorter than other **native** spruces in the area.

Black spruce trees are **native** to Michigan.

Deciduous or Coniferous?	**Coniferous**
Type of Leaf:	Stiff, waxy, pale blue-green color Single needle
Height at Maturity:	Usually less than 60 feet
Claim-to-Fame:	Commonly used as a Christmas tree

Norway spruce

Picea abies

The droopy branches make it a popular tree to plant in the yard.

Norway spruce trees support a wide variety of wildlife. The tree's thick branches serve as an important winter cover for deer and small game including grouse, hare, and woodcock. Songbirds and furbearers also enjoy living in forest types that grow Norway spruce. Norway spruce branches and needles also make a good roosting tree for hawks and owls.

Norway spruce can be found planted throughout the state, growing best in moist but not wet soils.

Except for the droopy branches, Norway spruce grows and behaves like white spruce.

Norway spruce trees are **native** to Europe.

Deciduous or Coniferous?	**Coniferous**
Type of Leaf:	Needles are short, dark green, and sharp Single needle
Height at Maturity:	80–90 feet
Claim-to-Fame:	Swoopy, droopy branches

White spruce

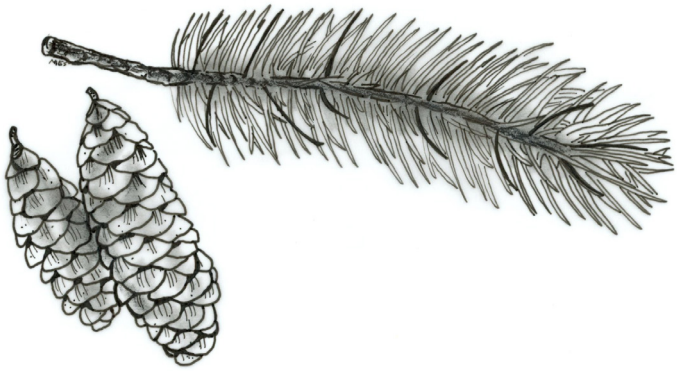
Picea glauca

The wood of white spruce is used for musical instruments sounding boards and as **pulp** for paper. The nice, conical form makes it a popular landscape tree. Native Americans used spruce roots for bindings of all types.

White spruce trees provide many kinds of wildlife with ideal nesting sites, shelter, and food. Crossbills, evening grosbeaks, and red-breasted nuthatches prefer the seeds. Grouse, rabbits, and deer eat the needles. Red squirrels eat the young tender shoots as well as open the cones to eat the seeds. Porcupines and black bears love to nibble on the bark but sometimes that can hurt the trees.

The natural range of the white spruce covers the state. They grow best on **upland** sites but can tolerate moist but not wet soils along stream banks and lake shores. Generally, the white spruce grows up to 2 feet in diameter. Blue spruce has similar form and growth patterns, but white has greener needles.

White spruce trees are **native** to Michigan.



Deciduous or Coniferous?	**Coniferous**
Type of Leaf:	Sharp, short needles, sometimes bluish green Single needle
Height at Maturity:	80 feet
Anishinaabemowin Word:	gaawaandag
Claim-to-Fame:	Makes a great windbreak near buildings or farmland

Colorado blue spruce

Picea pungens

Colorado blue spruce is a popular landscape tree because of its showy bluish needles and conical form. Like other **conifers**, it can be a good shelter for birds and other wildlife.

This species can grow wherever it's planted in the state. It grows best in moist but not wet soils. Colorado blue spruce can reach up to 2 feet in diameter. White and blue spruce can be grown in the same types of soils and locations, but white spruce has fewer disease problems because it's **native** to Michigan.

Colorado blue spruce is **native** to the Central Rocky Mountains of the western United States.

Deciduous or Coniferous?	**Coniferous**
Type of Leaf:	Sharply pointed, 4-sided needles Attached individually, bluish green color
Height at Maturity:	70–90 feet
Claim-to-Fame:	Bluish in color; withstands winds; long lived

A SPECIAL CONIFER

Tamarack/Larch

Larix laricina

This species is also known by the name larch. Native Americans wove the larch's roots together to make bags. Tamarack wood is used for **pulp** to make paper, and the rot-resistant wood is used for fence posts and boats.

Its growth in wet areas helps to protect water quality and prevent **erosion**. This species can be found throughout the state, often growing with black spruce in acidic, wet bogs.

It is a unique **conifer** because it sheds all of its needles every fall.

Tamarack trees are **native** to Michigan

Deciduous or Coniferous?	**Deciduous**
Type of Leaf:	Needles grow in clusters of dozens Soft needle
Height at Maturity:	50–60 feet
Anishinaabemowin Word:	mashkligwaatig
Claim-to-Fame:	The only needled-tree that is deciduous—pretty wild!

BROADLEAF TREES

THE ASHES

All true ash trees have the possibility of attracting a pest called the emerald ash borer that feeds on the **inner bark** of branches and tree trunks. Once infested, branches begin to die off and then eventually, the entire tree will die. Ash tree owners should contact a professional forester or arborist for tree health advice.

American mountain-ash

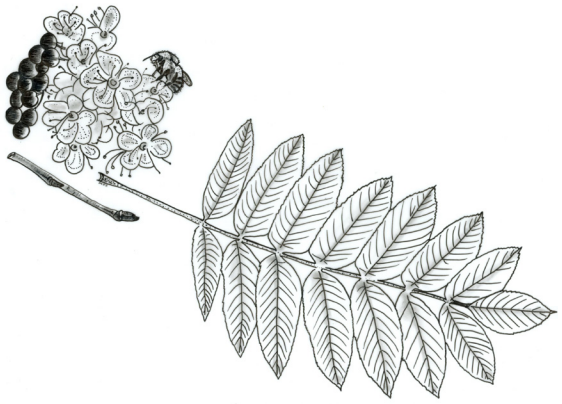
Sorbus americana

Life holds many mysteries—like the name of this tree. American mountain-ash is not a true ash tree. It has many leaves like other true ash trees, which might have been the reason it was named this way. But this tree is like a fast-food restaurant for wildlife! The American mountain-ash grows brilliant orange-red-colored berry clusters enjoyed by many birds including cedar waxwings, ruffed grouse, robins, and blue jays as well as squirrels. Moose in the Upper Peninsula will browse on its twigs, leaves, and bark. White-tailed deer along with fishers, martens, and snowshoe hares across Michigan feed on this species too.

American mountain-ash grows all across Michigan, and this tree is not picky. It is sometimes found growing in wet soils along stream banks and swamps, but this species also thrives in the dry and rocky soil of the mixed-forested bluffs and cliffs of Lake Superior.

This species is slightly pyramid-shaped with a rounded **crown**. Its bright showy flowers and colorful fruit clusters make this tree stand out in a crowd. Strangely, this tree is not an ash but instead is in the rose family. Luckily, this species is not bothered by the emerald ash borer beetle that infests true ash trees.

American mountain-ash trees are **native** to Michigan.



Deciduous or Coniferous?	**Deciduous**
Type of Leaf:	**Pinnately compound leaf; leaflets** have finely **toothed** margins. Leaves grow **alternate** on branch
Height at Maturity:	30-50 feet
Claim-to-Fame:	Bright, showy flowers and fruit

Black ash

Fraxinus nigra

Black ash produces a quality of wood ideal for creating strips to use for basket making and barrel hoops. Black ash is also used in indoor furniture and kitchen cabinets.

Although black ash trees do not provide a lot of food for wildlife, the habitat of black ash is ideal for bobcat, moose, white-tailed deer, and small animals.

Black ash likes growing in soils of **hardwood** and tamarack swamps in Michigan, especially soggy land such as swamps, bogs, and lowland areas with **poorly drained soils**.

It is considered a thin tree; its trunk only reaches 2 feet in diameter.

Black ash trees are **native** to Michigan.

Deciduous or Coniferous?	**Deciduous**
Type of Leaf:	**Pinnately** compound leaf; 7–11 **toothed leaflets** Leaves grow **opposite** on branch
Height at Maturity:	40–60 feet typically, can reach 90 feet
Anishinaabemowin Word:	aagimaak
Claim-to-Fame:	Good wood for making baskets

White ash

Fraxinus americana

If you like playing baseball, taking snowshoe hikes, or floating down a river in a canoe, you'll love the white ash tree. White ash is such a strong wood that it is used to create wooden baseball bats, canoe paddles, and snowshoes. The wood is also used in furniture, doors, railroad cars, and boats.

White ash is the most valuable timber tree of the various ashes. Native Americans found it useful for making tools and some traditional medicines. It is used extensively today for tool handles. White ash has a large, wide **crown**, which provides a lot of shade to sit under and enjoy. White-tailed deer and cattle browse white ash. Beaver, porcupine, and rabbits may eat the bark of young trees. The seeds are eaten by wood duck, northern bobwhite, turkey, grouse, finches, grosbeaks, cardinals, and many other birds. Squirrels, mice, and other small mammals also eat the seeds. White ash is important for cavity nesters such as redheaded, red-bellied, and pileated woodpeckers.

This species thrives all across Michigan. This tree favors sunny, **well-drained** sites of **hardwood** forests. White ash grows the tallest of all the ash trees. The **bud scar** (where the leaf falls off) forms the shape of a "U" or a smile.

All true ash trees have the possibility of attracting a pest called the emerald ash borer that feeds on the **inner bark** of branches and tree trunks. Once infested, branches begin to die off and then eventually, the entire tree will die. Ash trees owners should contact a professional forester or arborist for tree health advice.

White ash trees are **native** to Michigan.

Deciduous or Coniferous?	**Deciduous**
Type of Leaf:	**Pinnately compound leaf;** 7–11 **toothed leaflets** Leaves grow **opposite** on branch
Height at Maturity:	70–80 feet
Anishinaabemowin Word:	aagimaak
Claim-to-Fame:	Popular with wildlife

ASPENS/POPLARS

Trembling and large-toothed aspen rarely reproduce from seed except under the best conditions, but aspens are also able to grow from a single root in large clones. This creates stands of genetically identical trees growing from a single rootstock. Clearcutting aspen forests is used to harvest and regenerate aspen. Aspen trees are commonly referred to as *popple*.

Large-toothed aspen

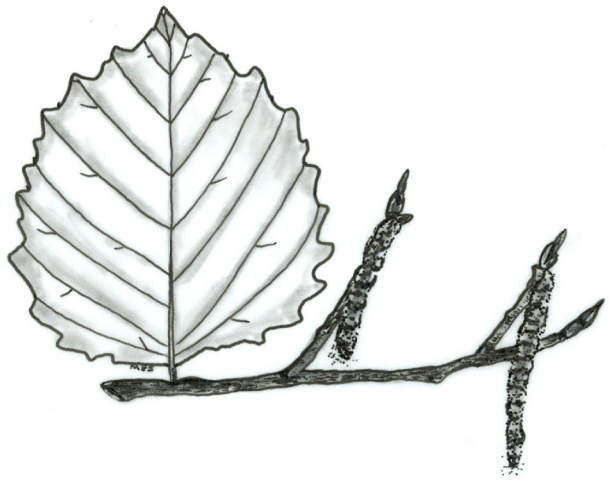
Populus grandidentata

Large-toothed aspen has a soft wood good for making **pulp** for particle boards and other construction products. It is also used to make boxes, matchsticks, chopsticks, and ladders. Large-toothed aspen provides food and shelter for wildlife including the ruffed grouse. It is a good winter food source for moose and white-tailed deer. American beavers eat the bark, leaves, twigs, and branches. They also use the branches as construction material for lodges and dams.

In Michigan, aspen forests are found mostly in the Upper Peninsula and the northern Lower Peninsula. All aspens love sunny areas and prefer dry, **well-drained soil**. They often grow together with other aspens in *stands* or *groves* but they can also be found among red maple, white pine, balsam fir, and paper birch.

Sometimes people confuse aspen with the paper birch species because of the light-colored bark. Aspen grows quickly but they live short lives compared with other tree species. Aspen forests easily adapt to wind, fire, and harvests. The fluttering leaves of aspen look like tiny hands clapping on windy days.

Large-toothed aspen trees are **native** to Michigan.



Deciduous or Coniferous?	**Deciduous**
Type of Leaf:	**Simple** and **toothed** Leaves grow **alternate** on branch
Height at Maturity:	60–80 feet, but can reach 100 feet
Anishinaabemowin Word:	azaadi
Claim-to-Fame:	First to arrive after **disturbance**

Trembling aspen

Populus tremuloides

Hamsters enjoy the fluffy, high-quality bedding made from the wood of trembling aspens. Companies also use this tree to make paper, furniture, and construction materials.

Trembling aspen provides important habitat for insects, which in turn, feed the birds. When their leaves drop, they feed the soil. Aspen wood can rot easily making it ideal for use by cavity-nesting birds such as sapsuckers, woodpeckers, chickadees, nuthatches, tree swallows, kestrels, and wood ducks.

This species is sometimes called quaking aspen. Like its cousin the large-toothed aspen, trembling aspen trees are found mostly in the Upper Peninsula and northern Lower Peninsula of Michigan. The trembling aspen can grow in many areas, but it prefers lots of sunshine. It is the most widespread tree in North America.

Scientists call trembling aspen a *Keystone species*. Keystone species live in balance with other forest plants and animals providing shelter, food, and nutrients supporting healthy habitats.

Trembling aspen trees are **native** to Michigan

Deciduous or Coniferous?	**Deciduous**
Type of Leaf:	**Simple** and **toothed** Leaves grow **alternate** on branch
Height at Maturity:	20–60 feet
Anishinaabemowin Word:	azaadiins
Claim-to-Fame:	Keystone species

Balsam poplar/Balm of Gilead

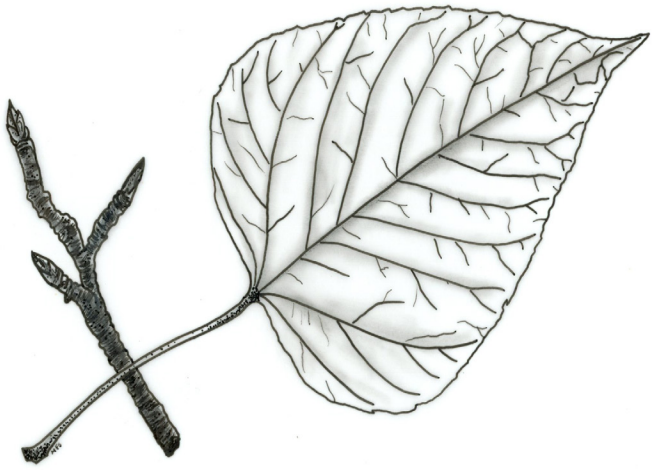
Populus balsamifera

The wood of balsam poplar, also known as Balm of Gilead, has short, thin fibers good for making tissues and high-grade paper. The wood is also used in making crates, pallets, and boxes. Native Americans used the **inner bark** to make soap.

Balsam poplar provides food and cover to a variety of wildlife species including white-tailed deer, elk, grouse, and American beaver. This tree has a short life span, and old, rotten dead trees provide important habitat for birds and small mammals that like to nest in cavities, or holes, in the dead trees. Balsam poplar is found in the northern Lower Peninsula and throughout the Upper Peninsula. It is found in wetter areas and along creeks, streams, and rivers where its shade helps to keep the streams cold, aiding in the survival of the fish that thrive in cool-water habitats. Its extensive root system also acts to filter agricultural chemicals out of the soil, improving the quality of the water.

Balsam poplar is the largest poplar tree. This tree likes its leaves to be in full sun and usually loses its lower branches to the shade in favor of growing additional branches at the top, where sun is abundant. The bark of balsam poplar is a bit darker than its poplar cousins. The leaf **buds** of this tree are covered in **resin** (sticky **sap**) and are very large in comparison to other poplars.

Balsam poplar trees are **native** to Michigan.



Deciduous or Coniferous?	**Deciduous**
Type of Leaf:	**Simple** pointed tip and rounded **leaf base** Leaves grow **alternate** on branch
Height at Maturity:	120 feet
Anishinaabemowin Word:	azaadi
Claim-to-Fame:	Provides beneficial habitat for wildlife

Eastern cottonwood

Populus deltoides

Even though eastern cottonwood is a weak wood only used to make a few things such as **plywood**, **pulp** and containers, it is a large, fast-growing tree important for beauty and shade and protection from wind.

American beavers use eastern cottonwood saplings and poles for food and dam construction, and the young trees are browsed by white-tailed deer, rabbits, and other small animals. The eastern cottonwood grows mainly in the Lower Peninsula of Michigan, but some are found in the Upper Peninsula near the Great Lakes shoreline.

This species doesn't tolerate the cold. It grows better in wetter soil of floodplains and is also known for colonizing open areas. Eastern cottonwood has a large open **crown**.

The flowers of the cottonwood, called catkins, look like caterpillars and its seeds like tufts of white cotton.

Eastern cottonwood trees are **native** to Michigan.

Deciduous or Coniferous?	**Deciduous**
Type of Leaf:	**Simple toothed** leaf Leaves grow **alternate** on branch
Height at Maturity:	Up to 100 feet
Claim-to-Fame:	White fluffy seeds

THE NUT PRODUCERS

Popular with our wildlife friends, trees that produce nuts are an important part of the edible forest. Like other crop-bearing trees, nut trees start to yield fruit in 3 to 5 years. Nut production often varies from year-to-year, with some years having a “bumper crop” and others producing few nuts. Trees that produce nuts are usually slow growing and require lots of space.

American beech

Fagus grandifolia

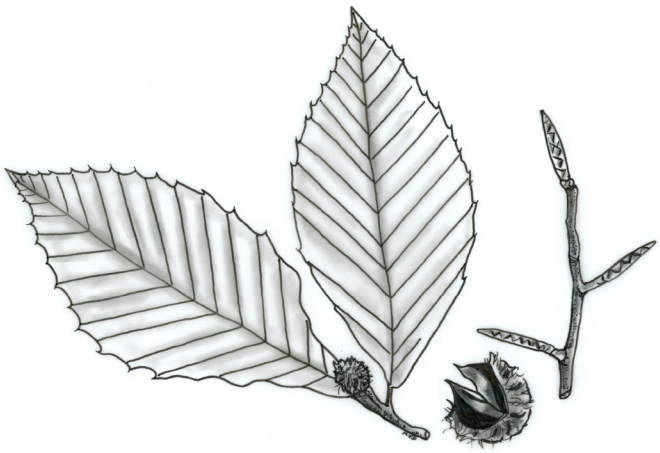
Beech wood is used to make many products such as flooring, furniture, **veneer plywood**, and railroad ties. Beech is a good wood for fuel because of its good burning qualities. American beech has a large canopy and provides a nice shady spot to enjoy.

Beech mast (or seed) is eaten by a variety of birds and mammals, including mice, squirrels, chipmunks, black bear, white-tailed deer, foxes, ruffed grouse, ducks, and blue jays.

American beech trees grow all over Michigan. In the southern Lower Peninsula, American beech trees grow in beech-maple forests and in the north, they can be found in **northern hardwood forests**. American beech trees favor growing in moist, **well-drained soils** of mixed forestland. The tree grows into an oval shape. The smooth, thick, light grey trunk of a beech tree looks a little like the leg of an elephant.

A tree disease affecting American beech in Michigan and elsewhere is called beech bark disease. Once a sick tree is weakened by the fungus, it can be blown over by strong winds causing the tree to snap. If a tree has beech bark disease, it will die. You can tell if a beech tree has the disease by looking for what looks like white wool on the bark, which is actually wax released from beach bark scales. Beech bark scales are tiny soft-bodied insects that infest the trees.

American beech trees are **native** to Michigan.



Deciduous or Coniferous?	**Deciduous**
Type of Leaf:	**Simple leaves** with a serrated margin Leaves grow **alternate** on branch
Height at Maturity:	Up to 70 feet
Claim-to-Fame:	Important seed source

Horse chestnut

Aesculus hippocastanum

Horse chestnut trees do not produce very strong wood for human use. It decays easily but it is easy to work with to make **veneer**, furniture, **plywood**, and interior trim.

People enjoy the shade this large tree provides as well as its clusters of white flowers with a yellow and red tint. It is a large flowering tree perfect for open areas. Wildlife such as white-tailed deer can browse on horse chestnuts, but the fruit is mildly poisonous and will make many animals sick.

The horse chestnut can be planted in the Upper Peninsula but is mostly found growing in a few areas of the Lower Peninsula. Sometimes it is found seeding in disturbed ground, **fencerows**, and forests but rarely found near swamps.

This species prefers full sun to partial shade and moist, **well-drained soils**. Horse chestnut trees have an upright, **elliptical** shape. The horse chestnut tree was totally misnamed because the chestnut fruit of the tree is actually a buckeye and horses do not eat them. The nut is bitter and toxic to horses. Horse chestnut and buckeye are similar in their fruit and large leaf shape.

Horse chestnut trees are **native** to southeastern Europe.

Deciduous or Coniferous?	**Deciduous**
Type of Leaf:	**Palmately compound, toothed** Leaves grow **opposite** on branch
Height at Maturity:	50–75 feet
Claim-to-Fame:	Nuts are fun to throw!

American chestnut

Castanea dentata

The wood is beautiful, light, and rot resistant, making it ideal for outdoor building materials. The nuts are also tasty and a highly valuable food source for wildlife.

This species' natural range is limited to the southern Lower Peninsula, but it can be found in patches further north. American chestnut trees can grow in a range of soils, but it does best in **rich soil** with slightly moist conditions.

Don't confuse it with horse chestnut even though the nuts may look similar. American chestnut has sharp and prickly husks around the nuts. This was one of the most beautiful, plentiful, and important tree species in the eastern United States, but the chestnut blight, a disease introduced from Europe in the middle of the 1900s, has destroyed almost all of them.

American chestnut trees are **native** to Michigan.

Deciduous or Coniferous?	**Deciduous**
Type of Leaf:	**Simple**, serrated, canoe-shaped Leaves grow **alternate** on branch
Height at Maturity:	50–100 feet
Anishinaabemowin Word:	ohehyahtah (eastern tribes)
Claim-to-Fame:	Chestnuts roasting on an open fire

Ohio buckeye

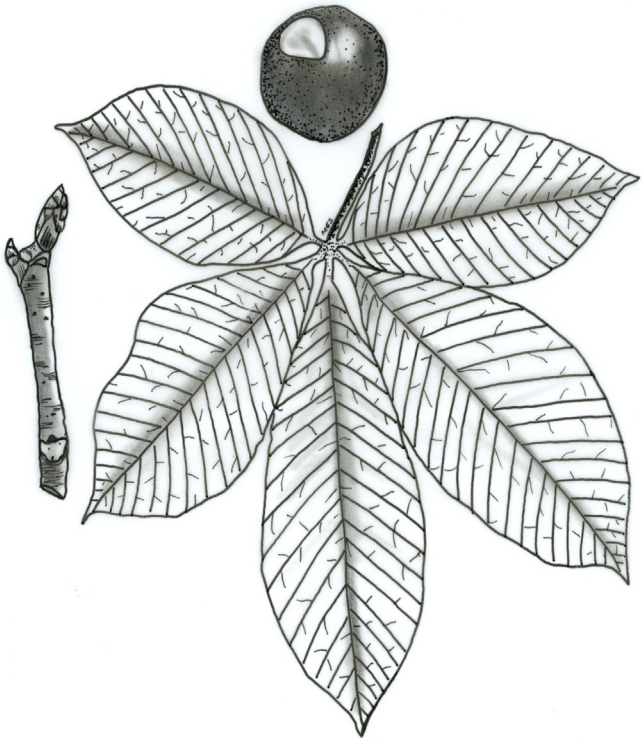
Aesculus glabra

Every part of this tree is poisonous from the leaves to the bark, but the wood of an Ohio buckeye is lightweight but strong and easy to work with. It is used to make artificial limbs for people.

Even though this is poisonous to humans and livestock, squirrels can eat the seeds without trouble.

Ohio buckeye is found in the southern Lower Peninsula. It prefers moist soils. This rounded tree has low, droopy branches and thick leaves that provide deep shade.

Despite the name, Ohio buckeye trees are **native** to Michigan.



Deciduous or Coniferous?	**Deciduous**
Type of Leaf:	**Palmately compound, finely toothed** Leaves grow **opposite** on branch
Height at Maturity:	50–70 feet
Claim-to-Fame:	Cool pale scar on large brown seed

Black walnut

Juglans nigra

The nuts are delicious for baking, but you need a hammer to get to the nutmeat. The beautiful dark brown wood is one of the most valuable woods for furniture and **veneer**. Squirrels are especially attracted to the nuts in the fall. After burying them to store for later, they sometimes forget, which means a new walnut tree can grow there.

The natural range of this species is limited to the southern Lower Peninsula. It is most often found in the open, in the "goldilocks zone," where the soil isn't too wet or too dry. This species can grow up to 3 feet across. Black walnut is closely related to the butternut, or white walnut.

The tree creates a smelly chemical called *juglone* that keeps some other plants from growing nearby.

Black walnut trees are **native** to Michigan.

Deciduous or Coniferous?	**Deciduous**
Type of Leaf:	**Pinnately compound** leaves with 14 to 24 **leaflets** and a finely serrated margin Leaves grow **alternate** on branch
Height at Maturity:	Reaches 70–90 feet
Anishinaabemowin Word:	bagaanaak
Claim-to-Fame:	Anti-social

THE HICKORIES

Bitternut hickory

Carya cordiformis

The name says it all. Most animals do not like to eat bitternut hickory fruit because of its bitter flavor. Rabbits, beavers, and small rodents will occasionally feed on the bark of bitternut hickory.

Because bitternut hickory wood is hard and durable, it is used for **pulp** and lumber for making furniture, paneling, dowels, tool handles, and ladders. It is also used as charcoal and fuelwood.

Bitternut hickory is pretty flexible as trees go. It can grow in wetter lowland areas or drier **upland** areas. It prefers moist, **well-drained soil** in sunny areas. The tree's overall form grows oval, round, and upright. In Michigan, bitternut hickory trees grow in the southern Lower Peninsula. This tree is distinctive in winter with its bright yellow **buds** and slender, pale twigs with soft ridges. Leaves have seven to eleven **leaflets**.

Bitternut hickory trees **native** to Michigan.

Deciduous or Coniferous?	**Deciduous**
Type of Leaf:	**Pinnately compound** leaf with a serrated margin Leaves grow **alternate** on branch
Height at Maturity:	50–70 feet
Claim-to-Fame:	Its wood is hard and durable

Shagbark hickory

Carya ovata

Shagbark hickory is excellent for burning and is used to make flavorful food such as hickory-smoked bacon. Hickory lumber is strong and shock resistant, which makes it a great option for making tool handles, ladder rungs, athletic equipment, furniture, and flooring.

Black bears, foxes, mice, chipmunks, squirrels, rabbits, and several birds enjoy the nuts every fall. Some wildlife species such as the Indiana bat nest underneath the tree's loose, long strips of bark.

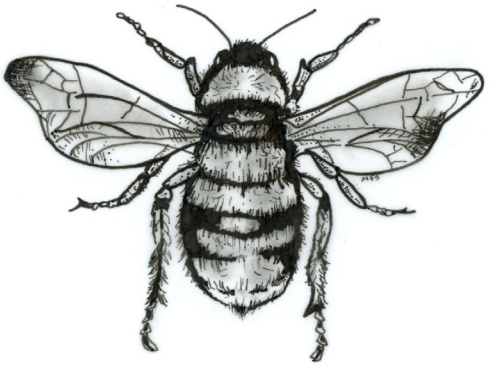
Like its cousin, the bitternut hickory, shagbark hickories prefer growing in the southern Lower Peninsula of Michigan. Shagbark hickories can grow in many temperatures, but they do best on moist soils in wet climates. This species is found scattered throughout a forest of oaks, pines, and maples. The tree grows into an oval shape and gets its name from the shaggy strips of peeling bark. The fruit of the shagbark hickory is a nut with a hard outer husk that splits open when ripe.

Several diseases and pests, including canker rot fungus and hickory bark beetles, attack shagbark hickories. Shagbark hickories reach maturity and start producing seeds at around 40 years old. The average lifespan is 200 years, but some longer lived shagbarks can continue to produce seeds up until 300 years old.

Shagbark hickory trees are **native** to Michigan.

Deciduous or Coniferous?	**Deciduous**
Type of Leaf:	**Pinnately compound** leaf with a finely serrated margin Leaves grow **alternate** on branch
Height at Maturity:	60–80 feet
Anishinaabemowin Word:	bagaan
Claim-to-Fame:	It's all about the bark!

TREES FOR BEES



Once a year, some species of trees produce amazing flowers full of pollen and nectar—important food sources for many **pollinator** species including bees. The following are a few of those incredible trees.

Apples/Crabapples

Malus spp.

The fruits of apple and crabapple trees are popular in all kinds of baking and preserving. The wood is often used to smoke meats.

White-tailed deer and other wildlife eat the fruits and browse the young **buds** and branches.

Apple and crabapple trees can be found throughout the state. These species commonly grow around old farmsteads, roadsides, and abandoned fields. It is a small tree with wide-spreading branches.

There are many different species that can cross-pollinate to create lots of variation in the fruits and flowers. Apple trees have been planted so long in Michigan and other states that they have become **naturalized**.

Apple and crabapple trees are **native** to the temperate regions of North America, Europe, and Asia.

Deciduous or Coniferous?	**Deciduous**
Type of Leaf:	**Simple** leaf that is typically finely serrated Leaves grow **alternate** on branch
Height at Maturity:	No taller than 35 feet
Claim-to-Fame:	Desserts for all!

American basswood

Tilia americana

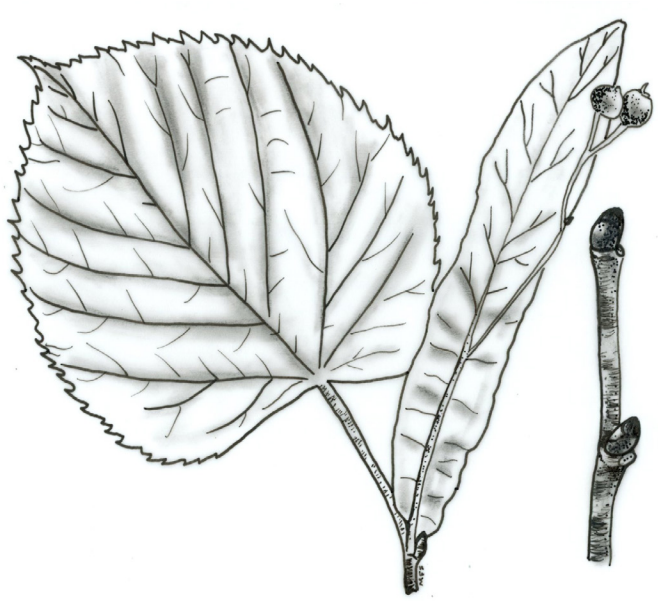
Beekeepers love basswood! The flowers of the basswood have a sweet smell in the springtime, which attracts honeybees. Honeybees collect sweet nectar from the flowers.

Basswood's fibrous **inner bark** is collected and dried for use in starting fires in a traditional way. Basswood strips have excellent tinder properties that come in handy when striking a fire.

American basswood buds are important for birds and white-tailed deer in winter. Birds and small mammals eat the fruits. Cavity-nesting animals such as wood ducks, pileated woodpeckers, other birds, and small mammals use basswood for shelter.

American basswood prefers growing in moist, **well-drained soils** across Michigan. This species grows in **upland deciduous** forests, usually with sugar maple, beech, hemlock, and other trees. It sometimes grows in swamps (even with cedar). Basswood trees have a narrow, pyramid shape. This species also has little round fruit that grows in clusters that are easy to spot. American basswood trees also **sprout** quickly after a fire or cutting.

American basswood trees are **native** to Michigan



Deciduous or Coniferous?	**Deciduous**
Type of Leaf:	**Simple** leaf with an asymmetrical base and a serrated margin Leaves grow **alternate** on branch
Height at Maturity:	35–50 feet
Anishinaabemowin Word:	wiigob
Claim-to-Fame:	A favorite among the bee families

Common hawthorn

Crataegus monogyna

Hawthorn is frequently planted as a **fencerow** and for wildlife food. The small berries produced by this species are eaten by a variety of birds. The multiple stems and branches of this species, sometimes with long thorns, provide shelter for birds and small mammals such as rabbits and squirrels.

Hawthorn is common throughout Michigan. This species can grow on most any soil and in areas where the temperature frequently goes below zero in the winter months.

It usually has multiple stems at its base and spreading branches near its top. The long thorns produced by the **native** variety of this species are its most distinguishing characteristic.

Common hawthorn is **native** to Michigan.

Deciduous or Coniferous?	**Deciduous**
Type of Leaf:	Variable shape, deeply **lobed** and/or **doubly** serrated margin Leaves grow **alternate** on branch
Height at Maturity:	Up to 25 feet

Juneberry/Serviceberry

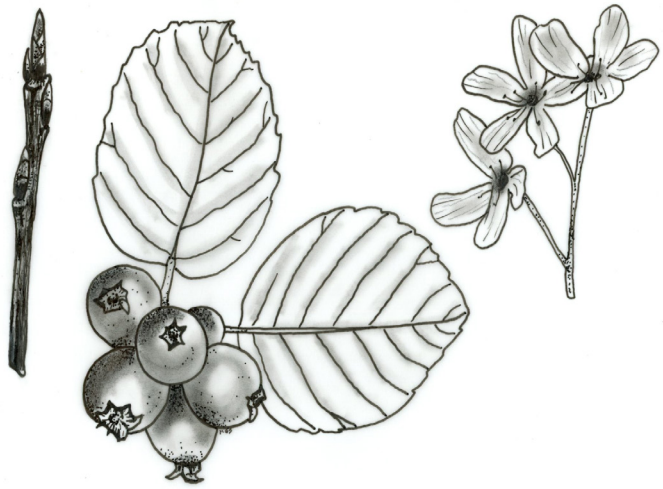
Amelanchier canadensis

This tree has many aliases, or nicknames. Juneberry trees are also called serviceberries and shadblows.

Juneberry is a shrubby tree and often grows multiple stems. The small purplish fruits are tasty and can be eaten raw or dried, if you can beat the birds to them. Birds and other wildlife love the fruits.

Juneberry can be found throughout the state. It grows most often on drier hillsides or open fields. It is a small tree with showy white blossoms that stand out in the early spring. The name shadblow comes from the time that the tree blossoms, at the same time that shad (a fish) are spawning.

Juneberry trees are **native** to Michigan.



Deciduous or Coniferous?	**Deciduous**
Type of Leaf:	**Simple** leaf with a serrated margin Leaves grow **alternate** on branch
Height at Maturity:	Up to 30 feet
Anishinaabemowin Word:	gozigwaakominagaawanzh
Claim-to-Fame:	Bird candy

Tulip tree/Yellow poplar

Liriodendron tulipifera

Tulip tree is also called yellow poplar or a tulip poplar. The soft, light wood of this tree can be brittle. It is used to make furniture stock and **plywood**. This tree is frequently planted along streets and in parks because of its beautiful appearance and showy flowers.

The fruits provide squirrels food late in the winter, and white-tailed deer eat the twigs from younger trees.

The tulip tree grows in the southern Lower Peninsula. It grows well in moist, nutrient **rich soils** that do not hold water. It does not like soils that are too wet or too dry. The tulip tree was once the tallest tree in the eastern forests along with white pine.

This tree gets its name from its flower, which looks like a tulip. On mature trees, the flowers are hard to see because they grow in the upper branches.

Tulip trees are **native** to Michigan.

Deciduous or Coniferous?	**Deciduous**
Type of Leaf:	**Simple** leaf with lobes that some say looks like a tulip Leaves grow **alternate** on branch
Height at Maturity:	Up to 120 feet
Claim-to-Fame:	Flower and leaf are shaped like a tulip

Flowering dogwood

Cornus florida

The fruit of flowering dogwood is poisonous to humans, but we sure do enjoy planting this tree. That's because this species has attractive white flowers during springtime and is a popular choice to plant for landscapers and gardeners for shade and beauty.

Dogwood flowers are a popular hangout for bees and butterflies. Flowering dogwood has a fatty, nutritious seed enjoyed by over 82 species of birds. It is also an important food source for white-tailed deer, eastern chipmunk, gray squirrel, gray fox, mice, American beaver, and rabbit.

Flowering dogwood also helps keep soil healthy because when its leaves fall, they decompose faster than many other tree species adding to the organic matter. This species likes it a bit warmer, so it is found across the Lower Peninsula. Flowering dogwood grows in dry to moist **deciduous** forests, especially on hillsides and riverbanks and rarely found with tamaracks.

This species is one of our most attractive **native** trees. It is a shrubby tree, often growing multiple stems. There are many upturned branches on a flowering dogwood, and the **crown** can appear flattened to round.

Flowering dogwood trees are **native** to Michigan.

Deciduous or Coniferous?	**Deciduous**
Type of Leaf:	**Simple**, smooth Leaves grow **opposite** on branch
Height at Maturity:	15–20 feet
Anishinaabemowin Word:	moozomizh
Claim-to-Fame:	BFF to birds and bees

Black willow

Salix nigra

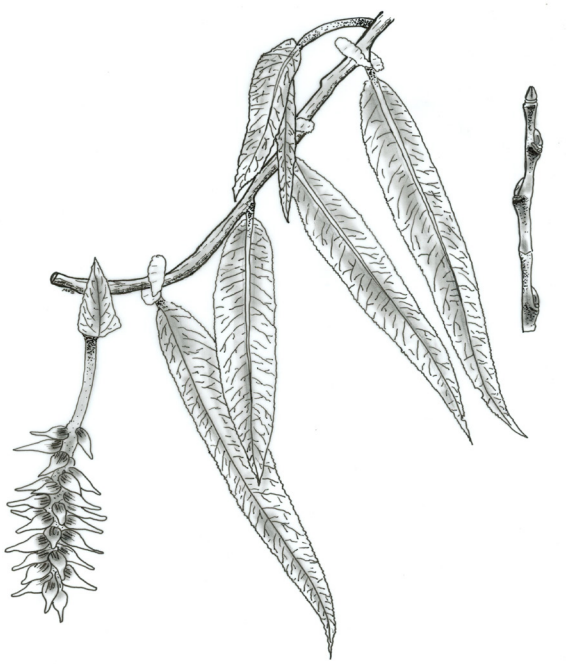
Willow trees growing along stream and riverbanks protect the land from **erosion**. Sometimes the trees naturally grow and sometimes they are planted. Land managers create mats of willow trees along streams to help protect soil.

The flowers are attractive to bees in the spring.

The natural range of this species is limited to the southern Lower Peninsula. Black willow grows along banks of streams and bottomlands close to water.

Black willow can grow over 3 feet in diameter. Many other willow species grow in the state, such as weeping willow and peachleaf willow.

Black willow trees are **native** to Michigan.



Deciduous or Coniferous?	**Deciduous**
Type of Leaf:	**Simple**, lance-shaped, fine little teeth Leaves grow **alternate** on branch
Height at Maturity:	60 feet
Anishinaabemowin Word:	oziisigobmizh
Claim-to-Fame:	One of the first trees to flower in the spring

THE BIRCHES

Birch trees are true **pioneers** as they colonize and thrive across disturbed or barren landscapes. They have male and female flowers on the same tree and each birch tree releases around a million seeds each year. The unique textures of its bark make birch trees easier to identify.

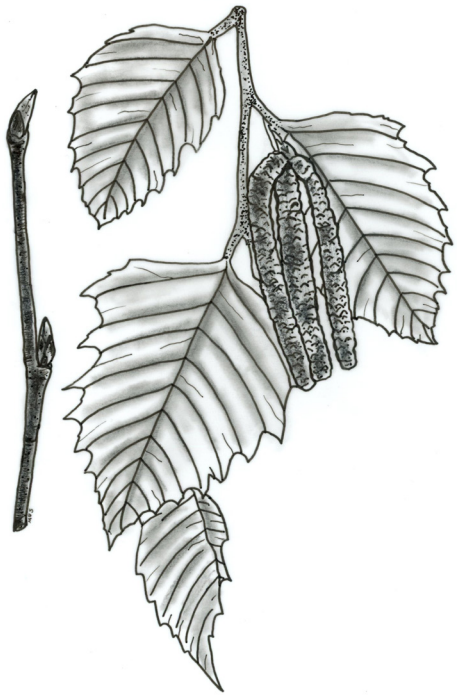
River birch

Betula nigra

The river birch is a best friend to fish! Can you guess why? Spoiler alert: It's because river birch trees love to grow along riverbanks and their leaves provide cool shade over the water, which fish enjoy on hot summer days. Also, the thick roots of a river birch help keep soil along streams and rivers in place, helping to prevent **erosion**.

Although it likes to grow in wet soils, river birch can be planted in many areas. River birch is a fast-growing tree with flaky colorful bark, making it a good choice for landscaping around houses and other buildings. It grows across Michigan.

River birch trees are **native** to Michigan.



Deciduous or Coniferous?	**Deciduous**
Type of Leaf:	**Simple, doubly serrated** Leaves grow **alternate** on branch
Height at Maturity:	50–90 feet
Claim-to-Fame:	Trout buddy

Paper birch

Betula papyrifera

Like a pizza buffet, there's something for everyone on a paper birch tree. White-tailed deer and moose like eating the leaves, rabbits and beaver eat the bark, and birds and small animals enjoy snacking on paper birch seeds.

Native Americans made paper birch bark into baskets, storage containers, mats, baby carriers, moose and bird calls, torches, household utensils, and canoes. Companies make furniture, cabinets, and other important wood products from paper birch.

Paper birch can be found in almost every county of Michigan. It is a species that grows best in full sunlight or partial shade near water. It is considered a **pioneer species**, meaning it is typically found in disturbed areas and rarely seen in older forests.

Paper birch is famous for its flakey, loose, white bark, which looks like paper. It has an oval but irregular **crown**. The flowers are long, thin white **catkins**.

Paper birch is a good campfire starter if you find pieces already fallen off the tree in the forest. Even though it's tempting, it's not a good idea to peel the loose bark off a living paper birch tree because doing that could damage the tree or invite insects in.

Paper birch trees are **native** to Michigan.

Deciduous or Coniferous?	**Deciduous**
Type of Leaf:	**Simple, doubly serrated** Leaves grow **alternate** on branch
Height at Maturity:	50–70 feet
Claim-to-Fame:	Beautiful bark with many uses

Yellow birch

Betula alleghaniensis

Yellow birch also has a strong, heavy wood used for furniture, cabinetry, charcoal, **pulp**, tool handles, boxes, woodenware, and interior doors.

White-tailed deer eat large numbers of yellow birch seedlings in summer and prefer green leaves and woody stems in fall. Moose, white-tailed deer, and snowshoe hare also browse yellow birch. The seeds are eaten by various songbird species and ruffed grouse feed on seeds and **buds**. Red squirrels cut and store mature **catkins** and eat the seeds. American beaver and porcupine chew the bark.

Yellow birch grows across the state—from lowland **hardwood** forests, especially in the southern part of the state, to **northern hardwood forests** of the north. It is becoming common in the western Upper Peninsula. Yellow birch grows in many habitats, but it likes shade and prefers moist **well-drained soils**. It has colorful leaves in the fall and its stems have a wintergreen scent.

Yellow birch trees are **native** to Michigan.

Deciduous or Coniferous?	**Deciduous**
Type of Leaf:	**Simple, doubly serrated** Leaves grow **alternate** on branch
Height at Maturity:	60–70 feet
Anishinaabemowin Word:	wiinizik
Claim-to-Fame:	Beautiful colored fall leaves

THE CHERRIES

What's not to like about cherry trees? They say hello every year with their amazing flower show to help everyone kick off the spring season, followed by the production of their fruit, which is prized by many. Did you know it is against the law to pick a cherry blossom off of a cherry tree in Washington, D.C.? True story.

Wild black cherry

Prunus serotina

You wanna talk about a breakfast of champions? Black cherry fruits and flower nectar are on the menu for black bears and butterflies as they are for many species of birds and small animals. Birds help distribute the seeds of black cherry trees by eating them and pooping them everywhere, so the trees grow in many places across Michigan.

Native Americans traditionally filled baby rattles with cherry pits. Wild black cherry wood is a rich reddish-brown color and is strong and hard. It is one of the most popular cabinet and furniture woods in North America. It is used inside home construction to make floors, kitchen cabinets, crafts, handles, toys, and scientific instruments. The tree's fruit can also be used to make jelly and flavor foods.

This species prefers full sun and grows in forest openings as well as in old fields and along **fencerows**. It usually occurs as scattered individuals in various types of mixed **hardwood** forests. Wild black cherry can grow in many places, but this tree does best in deep, moist, **well-drained soils**.

Adult trees have an oval shape. This species has large **scaly** bark like alligator skin and long white springtime flowers. Twigs have white speckles called **lenticels**, and leaves have a sweet cherry smell when crushed and broken.

Wild black cherry trees are **native** to Michigan.

Deciduous or Coniferous?	**Deciduous**
Type of Leaf:	**Simple**, and tiny **double-toothed** Leaves grow **alternate** on branch
Height at Maturity:	60–90 feet
Anishinaabemowin Word:	ookwemizh
Claim-to-Fame:	Cherry fruit loved by wildlife

Chokecherry

Prunus virginiana

Chokecherry is not particularly beneficial for humans, but birds prize its juicy fruits.

This tree isn't picky. It grows throughout the state in many different soils and conditions.

Vertically challenged, chokecherry is more like a large shrub than a tree. Its leaves are rounder than other true cherries and it contains a lot of bitter-tasting cyanide in leaves, stem, and twigs. White-tailed deer and other browsers stay away from it. Not yummy.

Chokecherry trees are **native** to Michigan.

Deciduous or Coniferous?	**Deciduous**
Type of Leaf:	**Simple**, round and pointed, small teeth Leaves grow **alternate** on branch
Height at Maturity:	Up to 35 feet
Anishinaabemowin Word:	asaweminagaawanzh
Claim-to-Fame:	This tree is for the birds

Pin cherry

Prunus pensylvanica

The fruits of pin cherry are tart but can be made into jams and jellies. This tree is another **native** fruit source for birds. During fall migration, it may be hard to find a tree with ripe cherries left on it. Pin cherries are red when mature rather than purple like other cherries.

This species can be found throughout the state. It grows in settings with lots of sunlight. More like a large shrub than a tree, often with multiple stems, it is quick to colonize abandoned fields or recently burned areas.

Pin cherry trees are **native** to Michigan.

Deciduous or Coniferous?	**Deciduous**
Type of Leaf:	**Elliptical**, lance-shaped with teeth Leaves grow **alternate** on branch
Height at Maturity:	30 feet or less
Claim-to-Fame:	A true American **pioneer**

THE ELMS

Elm trees were once the dominant shade tree growing in many neighborhoods across Midwestern and eastern communities. The outbreak of Dutch elm disease in Ohio in 1930 signaled the end of an era.

American elm

Ulmus americana

American elm can produce a lot of seeds and fast! The tree's flower **buds**, flowers, and fruit are eaten by gray squirrels. The seeds are also eaten by mice, squirrels, opossum, ruffed grouse, bobwhite, and partridge.

American elm is a strong, durable wood and good for making butcher blocks and cutting boards, flooring, furniture, baskets, and hockey sticks. It is also a wonderful shade tree, important on hot, sunny days for humans, wildlife, and livestock.

This species grows all across Michigan in areas such as river floodplains, even cedar swamps and among **hardwoods**. It is common on bottomlands and near streams, ponds, swamps, and lakes, and on moist slopes and **uplands** with other **hardwoods**.

Elm prefers full sunlight and grows well with green ash and sycamore. It has a vase-like shape. Before the devastation caused by Dutch elm disease, American elm trees were a favorite street tree in neighborhoods across the country because of their size, shade, and beauty.

American elm trees are **native** to Michigan.

Deciduous or Coniferous?	**Deciduous**
Type of Leaf:	Lopsided and **doubly serrated** Leaves grow **alternate** on branch
Height at Maturity:	70–100 feet
Anishinaabemowin Word:	aniib
Claim-to-Fame:	Speedy seed producer

Rock elm

Ulmus thomasii

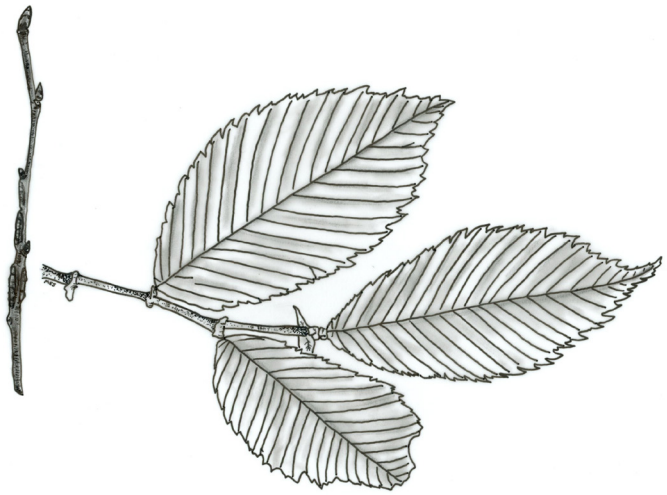
The wood of rock elm is stronger, harder, and stiffer than any of the other species of elms. It is highly shock resistant and has excellent bending qualities, which make it good for bent parts of furniture, crates, and containers. Much of the old growth was used for ship timbers.

The seeds and **buds** of rock elm are eaten by white-tailed deer, rabbits, squirrels, and a variety of birds. Small mammals such as chipmunks, ground squirrels, and mice really enjoy the flavor of rock elm seed and frequently eat a major part of the crop.

Rock elm grows in the northern and southern Lower Peninsula and the western end of the Upper Peninsula. Rock elm grows best on moist loamy soils. It may also be found on dry **uplands**, especially rocky ridges and limestone bluffs.

This species of elm is easier to spot because of its shape: a cylindrical **crown** with upright short branches. It is narrower than most elms. Because many older branches of rock elm have three to four irregular thick corky ridges, it is sometimes called the cork elm.

Rock elm trees are **native** to Michigan.



Deciduous or Coniferous?	**Deciduous**
Type of Leaf:	**Simple** and **doubly serrated** leaf with a lopsided base Leaves grow **alternate** on branch
Height at Maturity:	Up to 100 feet
Claim-to-Fame:	Branches have thick, winglike ridges

Slippery elm

Ulmus rubra

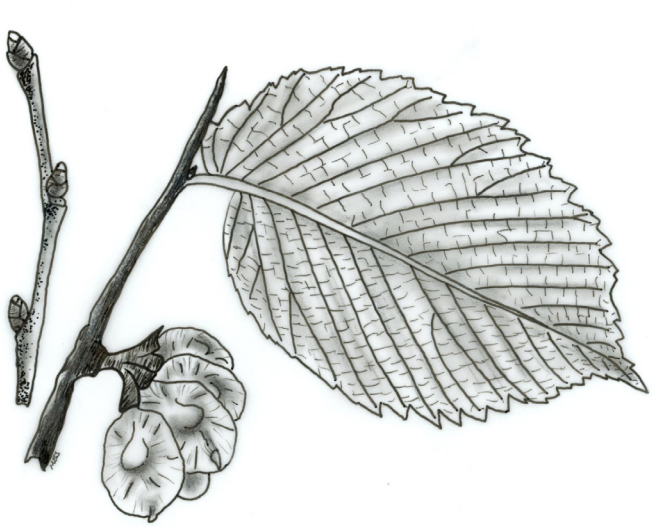
Slippery elm has a tough and stringy nature and has long been a difficult wood to work with. It can rot and warp easily but is used to make furniture, flooring, and wood paneling.

Birds often nest in the thick elm **foliage**, and the seeds and **buds** are food to songbirds, game birds, and squirrels. White-tailed deer and rabbits browse on the twigs.

Slippery elm is found all across Michigan. Slippery elm grows best on moist, **rich soils** of lower slopes, streambanks, and bottomlands but is also found on much drier sites. The slippery elm has a somewhat vase-shaped outline.

The flowers of this species open before the leaves depending on weather and location. Slippery elm leaves come down to a point and look a bit like an extra tail hanging off the end of the leaf.

Slippery elm trees are **native** to Michigan.



Deciduous or Coniferous?	**Deciduous**
Type of Leaf:	**Simple** and **doubly serrated** leaf with a lopsided base Leaves grow **alternate** on branch
Height at Maturity:	40–60 feet
Claim-to-Fame:	Provides decent nesting locations

Hackberry

Celtis occidentalis

In earlier years, the hackberry's tough, flexible wood was used for barrel hoops and building floors for pioneer cabins. Hackberry can be easily bent using steam and is currently used to make furniture, boxes and crates, and **veneer**.

The fruit of the hackberry is popular with winter birds, especially the cedar waxwing, mockingbird, and robin. The tree's flowers also attract many species of butterfly.

Hackberry is one tough tree. It is very adaptable and grows across the country in places with many different soils and temperatures and rainfall amounts. Hackberry can withstand high winds, air pollution, and times of drought.

In Michigan, hackberry trees grow in the southern Lower Peninsula. This species has an open, irregular vase shape. Hackberry trees grow quickly and can tolerate partial sun, but they prefer spaces with full sun. They have very pointy leaf tips like spearheads and produce red berrylike fruit that lasts through winter. Mature hackberry trees have bumpy warty bark.

Hackberry trees are **native** to Michigan.

Deciduous or Coniferous?	**Deciduous**
Type of Leaf:	**Simple** and **doubly serrated** leaf Leaves grow **alternate** on branch
Height at Maturity:	40–60 feet
Claim-to-Fame:	Yummy berries for wildlife

THE LEGUME PRODUCERS

Certain tree species are in the legume family with fruits that feel and look like bean or pea pods. Legumes are hard-shelled pods that hold the seeds of the tree. Some legumes are short and small, and some are long and large. Because only a handful of Michigan tree species produce them, the seasonal appearance of these unique seed pods helps to quickly identify the tree species.

Northern catalpa

Catalpa speciosa

Although northern catalpas produce long, bean-like seed pods, they are not actually in the legume family. They produce a soft brown wood used often for carving. Catalpa was also used for making packing materials. Carpenters sometimes use it for interior trim in houses or furniture.

The flowers of the catalpa are visited by hummingbirds and bees. Northern catalpa is mostly found in the southern Lower Peninsula but there are some growing wild, mostly on disturbed sites in the Upper Peninsula and the northern Lower Peninsula.

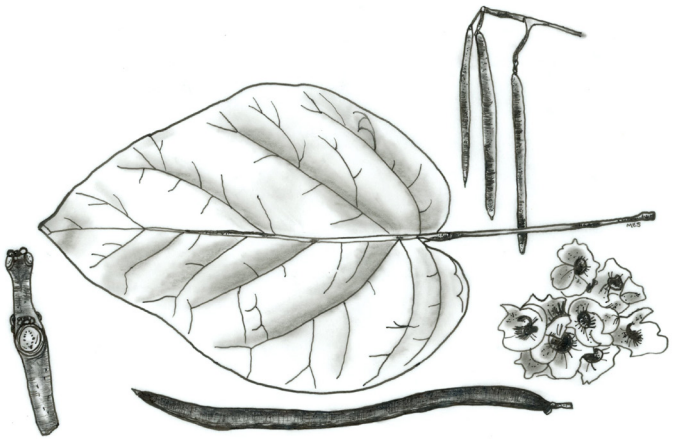
Prior to European settlement, catalpas were **native** to a small area of the central Mississippi Valley basin, western Tennessee, northeastern Arkansas, the lowlands of southeastern Mississippi, and southern Illinois and Indiana.

Northern catalpas grow best in deep, wet soils but they can adapt to drier conditions. They prefer a sunny location. Catalpas don't grow very tall, and they have an irregular-shaped, open-rounded to narrow-oval **crown**. Northern catalpas put on a good show. From their big, white flowers in springtime to heart-shaped leaves, giant beanlike pods, and twisty branches, it's hard not to notice and admire the northern catalpa tree.

Like fishing? Northern catalpas are the only host of a caterpillar that eventually becomes the catalpa sphinx moth. Some anglers call the plump little caterpillars "catfish candy" because they make great bait.

Summer rainstorms are sometimes called "catalpa storms" because when they occur, it looks like it is snowing with all the catalpa flower petals coming down everywhere.

Northern catalpa trees are **native** to Michigan.



Deciduous or Coniferous?	**Deciduous**
Type of Leaf:	**Simple**, large, long heart shape Leaves grow **opposite** on branch, some **whorled**
Height at Maturity:	Typically reach about 50 feet
Claim-to-Fame:	Jumbo leaves and giant pods

Eastern redbud

Cercis canadensis

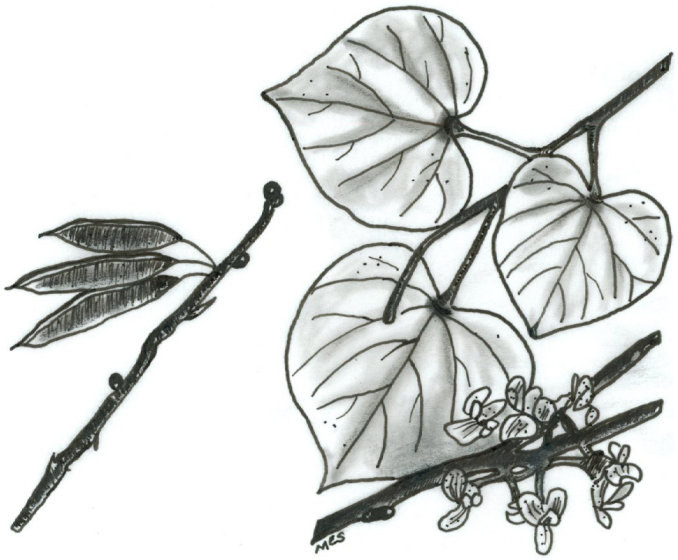
Eastern redbud is commonly planted in urban areas due to its beautiful pink flowers in the spring. Native Americans used the wood to make fires. Because eastern redbud was one of the first plants to flower in the spring, Native Americans would bring the flowers inside as a way to drive winter out.

Eastern redbud is a shrubby tree that often grows multiple stems. It naturally grows under **hardwood** forests and is eaten by white-tailed deer. The beanlike pods contain seeds that are eaten by a variety of birds including bobwhite quail. **Pollinators**, including bees, visit the early flowers in search of nectar.

Eastern redbud trees are found in the southern Lower Peninsula. They grow well under larger **hardwood** trees, especially next to streams and on forested ravines. They prefer moist soil full of nutrients.

This small tree will grow wide-reaching branches when growing under **hardwood** trees. When it is grown in full sun, it will grow to be around 35 feet tall with shorter branches. Eastern redbud trees have heart-shaped leaves and produce green seed pods that turn brown and hang from branches near the end of summer.

Eastern redbud trees are **native** to Michigan.



Deciduous or Coniferous?	**Deciduous**
Type of Leaf:	**Simple**, big broad heart shape Leaves grow **alternate** on branch
Height at Maturity:	20–36 feet
Claim-to-Fame:	Strong flower game!

Black locust

Robinia pseudoacacia

The wood of black locust is very rot resistant, which makes it ideal for fencing, poles, and tool handles. It also is effective in controlling **erosion** because of its wide-spreading root systems.

The fragrant blossoms in late spring are attractive to bees.

It can grow anywhere it is planted in Michigan, but it's most common in the southern Lower Peninsula. This tree isn't very picky as long as there's enough sunlight. Black locust usually grows uneven **crowns** and has a shrubby appearance.

This tree can be **invasive** and aggressive. Be careful of its thorns!

Black locust trees are not **native** to Michigan.

Deciduous or Coniferous?	**Deciduous**
Type of Leaf:	**Pinnately compound** leaves, dull green Leaves grow **alternate** on branch
Height at Maturity:	Up to 50 feet
Claim-to-Fame:	Thorny personality

Honey locust

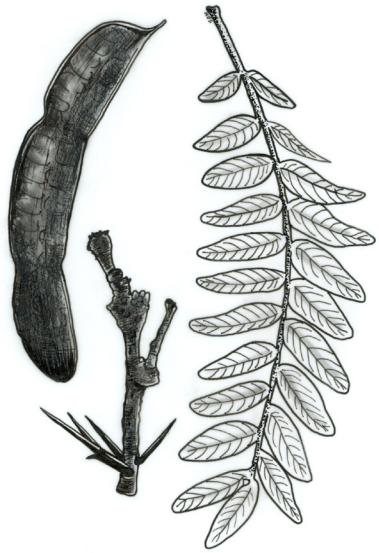
Gleditsia triacanthos

The honey locust has dense, shock-resistant wood used in furniture, fence posts, railroad ties, tool handles, and shipping containers. The Native Americans used different parts of the tree for food and medicine, and the wood for bows. A variety of wildlife including deer, squirrel, rabbits, opossum, and raccoons eat the long honey locust seed pods. This thorny tree can form dense thickets that provide shelter for birds and small mammals. Finally, the showy flower of the honey locust is visited by **pollinators**.

Honey locust is a **pioneer species**, meaning that it readily colonizes open fields and open pastures where it can grow in the full sun. The tree tolerates soil conditions that range from wet to dry. This species is found mainly in the southern Lower Peninsula with some occurrence in northern lakeshore counties.

Sometimes many stems of this tree grow next to one another to form a dense thicket. Honey locust trees can sometimes be identified by the long thorns that grow from the branches and the trunk of the tree. The thorns are reddish in color, and typically (not always) have three or more points. The leaf of the tree is doubly **compound**.

Honey locust trees are **native** to Michigan.



Deciduous or Coniferous?	**Deciduous**
Type of Leaf:	**Bi-pinnately compound** leaves Leaves grow **alternate** on branch
Height at Maturity:	Up to 100 feet
Claim-to-Fame:	Wildlife fortress

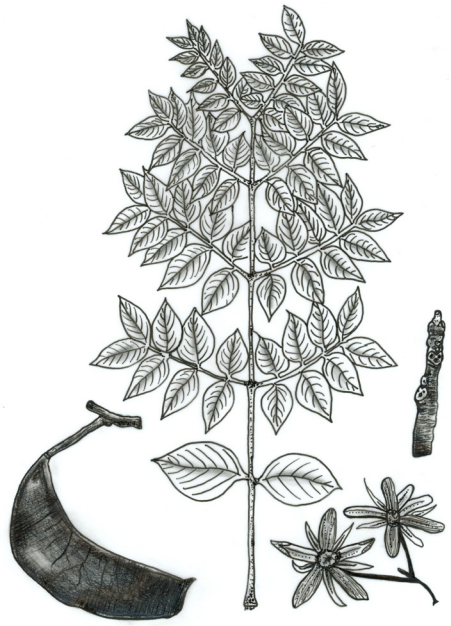
Kentucky coffeetree

Gymnocladus dioicus

The strong, heavy wood of the Kentucky coffeetree is used in construction. The tree is used to replant open pit mines no longer in use. Native Americans helped expand the range of this **native** tree by planting it in areas where it was not found naturally so that they could use parts of the tree for medicinal purposes. Birds nest in the tree, but the leaves and raw seeds are toxic and not eaten by wildlife.

In Michigan, the Kentucky coffeetree grows in the Lower Peninsula. It grows in many soils, preferring moist, nutrient **rich soil**. The leaves of this tree are doubly **compound**. The species is a member of the legume, or bean, family and the seeds are encased in a thick, flattened reddish pod 4 to 10 inches long. The thick, greyish bark has plates with edges that curl.

Kentucky coffeetrees are **native** to Michigan.



Deciduous or Coniferous?	**Deciduous**
Type of Leaf:	Bi-**pinnately compound** leaves, can grow to 36 inches Leaves grow **alternate** on branch
Height at Maturity:	60–100 feet
Claim-to-Fame:	Toxic

Musclewood/Blue beech

Carpinus caroliniana

Do you have a nickname? This tree has several. Musclewood is also known as blue beech and American hornbeam. The wood is very hard and has been used to make tool handles and as main support posts for tents.

The natural range is throughout the Lower Peninsula. Musclewood grows in moist, **rich soil**, especially along shady streambanks. This species is a small, shrubby tree that often grows multiple stems, which feel like well-muscled arms or legs, giving the tree the name *musclewood*. The twigs have soft hairs.

Musclewood trees are **native** to Michigan.

Deciduous or Coniferous?	**Deciduous**
Type of Leaf:	Dark green, deep **veins** and **double-serrated** Leaves grow **alternate** on branch
Height at Maturity:	30 feet or less
Claim-to-Fame:	Lots of aliases, or nicknames

Ironwood/Eastern hophornbeam

Ostrya virginiana

Eastern hophornbean is also called ironwood because it is very hard and durable. It is used for fence posts, fuel, and tool handles.

The fruits of the eastern ironwood are small, flattened nuts, clustered inside scale-shaped papery sacs that resemble hops. The nuts are an important winter food for ring-necked pheasants, rabbits, grouse, turkeys, white-tailed deer, squirrels, and several songbirds.

The species grows all over Michigan. It grows in many different types of soils but prefers moist soils. A small, shrubby **understory** tree, ironwood often grows multiple stems.

It prefers partial shade and full sun. The thin, greyish brown bark is broken into narrow, long strips that hang loosely on the tree. The twigs have soft hairs.

Eastern hophornbeam trees are **native** to Michigan.

Deciduous or Coniferous?	**Deciduous**
Type of Leaf:	**Simple** leaf with **doubly-serrated** margin Leaves grow **alternate** on branch
Height at Maturity:	20–50 feet
Claim-to-Fame:	Strong wood, cool-looking fruit

THE MAPLES

Maple trees are one of the most recognized trees in the world, especially during the fall months when they put on a show of colors as the seasons change. Ancient trees, they were growing when dinosaurs roamed the earth. Another cool maple fact is that maple trees are considered tonewood, a type of wood that carries sound waves well. Some musical instruments such as violins and cellos are made with maple wood parts.

Boxelder

Acer negundo

Boxelder is a weak, soft wood used for making **pulp**, boxes, and crates. It is a short-lived tree.

Boxelder trees provide important habitat for many wildlife species. Various birds and squirrels feed on the seeds of boxelder. This species also provides shelter. Boxelder bugs get their name from this tree. They eat the seeds, but they don't do much damage to the tree. Found indoors sometimes when they are active, these insects have an "X" across their back.

Boxelder trees grow all over Michigan. They like their soil wet and crave plenty of sunlight, but these trees can grow almost anywhere and are common along **fencerows**, sidewalks, railroads, ditches, behind garages, in abandoned city lots, and land disturbed through weather or human activity. Boxelders are shrubby trees, often growing multiple stems. They have a broad, ragged **crown**.

Although the leaves resemble poison ivy, it will not make you itch.

Box elder trees are **native** to Michigan.

Deciduous or Coniferous?	**Deciduous**
Type of Leaf:	**Compound** with **toothed leaflets** Leaves grow **opposite** on branch
Height at Maturity:	20–50 feet
Claim-to-Fame:	Opportunist: it will grow anywhere it can

Norway maple

Acer platanoides

Norway maple was once recommended as a yard tree because of its beautiful form and leaf color and its ability to grow well in most conditions. Over time, it became clear that this tree, **native** to Europe and East Asia, was able to produce more seeds and grow more quickly than species **native** to North America, and it has been labeled **invasive**. In some areas the tree is no longer allowed to be planted.

While squirrels and chipmunks likely eat the flowers, branch tips, and seeds, the invasive nature of this tree means that it grows so thick in some places that it prevents **native** species from growing. This means less **native** food is available for wildlife, especially birds, over time.

Norway maple is found throughout Michigan. It can grow in a variety of habitats and soils.

This tree has a full, rounded **crown** of leaves. Closely resembling the sugar maple, it can be differentiated by the purplish color of the twigs and leaves. Norway maple leaves also have five **lobes** and the leaf stem, or **petiole**, will produce a white **sap** if scraped or damaged.

Norway maple trees are **native** to Europe and Western Asia.

Deciduous or Coniferous?	**Deciduous**
Type of Leaf:	**Simple** with very deep **lobes** and teeth Leaves grow **opposite** on branch
Height at Maturity:	70–100 feet
Claim-to-Fame:	Purplish leaf color

Red maple

Acer rubrum

Red maple is commonly planted as an ornamental yard tree. Over time, people that work with ornamental trees have used breeding to make several varieties that feature red leaves in the summer, fall, or both. Red maple is sometimes harvested for timber to make furniture, flooring, musical instruments, and more.

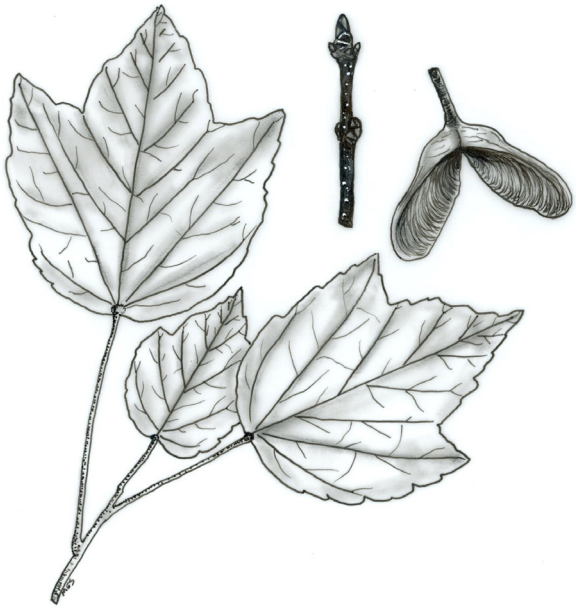
Red maple **sap** contains around half of the sugar as sugar maple and can be boiled down to make a nice syrup.

The seeds are eaten by squirrels and chipmunks, while saplings are eaten by rabbits, white-tailed deer, moose, and elk in the winter and spring. The helicopterlike seeds, **buds**, and flowers are eaten by a variety of species including squirrels and chipmunks. Because the red maple flowers early in the year, **pollinators**, including bees, depend on the species for nectar.

Red maple is commonly found throughout Michigan. While red maple is most commonly found in low-lying wetter areas, it has the ability to grow in more habitats and soils than any other tree in North America. Red maple trees can grow to be up to 100 feet tall, especially when grown in a yard or park. In the forest, red maple will generally be smaller trees found growing under the canopy of other trees. Red maple has smooth grey bark that is often spotted with lichen.

It is notable that red maple has at least one red feature during each season. In the summer and fall, the leaf stems, called **petioles**, are red. During the winter, the leaf **buds** are red; in the spring, the flowers are red. In the summer months, the helicopterlike seeds are red. Like the other maples, red maple also has **opposite** leaves and branching patterns.

Red maple trees are **native** to Michigan.



Deciduous or Coniferous?	**Deciduous**
Type of Leaf:	**Simple** with shallow **lobes** and teeth Leaves grow **opposite** on branch
Height at Maturity:	Up to 100 feet
Anishinaabemowin Word:	zhiishiigimewanzh
Claim-to-Fame:	Helicopterlike seeds like other maples

Silver maple

Acer saccharinum

This tree is widely planted in urban areas because of its fast growth. However, the branches on older trees tend to break easily and may cause damage.

Silver maple **sap** is very low in sugar content and is not usually used to make maple syrup. Because silver maple is one of the first tree species to flower and grow leaves in the spring, squirrels hungry after winter readily eat the swelling **buds** and flowers. **Pollinators** such as bees and other insects also visit the early flowers to feed. The helicopterlike seeds are readily eaten by many different birds and mammals. This brittle tree is also used by many cavity-nesting birds and mammals. Silver maple is named for the silver color of the bottom of its leaves; the top of the leaves is pale green.

The roots of this species help hold riverbanks in place during flooding events. Silver maple is found throughout Michigan and is less common in the interior counties of the northern Lower Peninsula and Upper Peninsula. The natural habitat of this species is in wet areas along rivers, streams, lakes, and wetlands. It grows best where it is not always wet, and the tree will survive (but not thrive) in areas that are wet most of the time. This tree can grow in the shade if growing on good soils; it requires sun if it is struggling because of site conditions, like wet soils. Silver maples have large, sweeping branches that turn up at the ends. The bark is greyish and smooth when young, growing into long shaggy ridges as the tree ages.

Silver maple trees are **native** to Michigan.

Deciduous or Coniferous?	**Deciduous**
Type of Leaf:	**Simple** with deep **lobes** and teeth Leaves grow **opposite** on branch
Height at Maturity:	75–100 feet
Anishinaabemowin Word:	ininaatig
Claim-to-Fame:	First of the maples to flower

Striped maple

Acer pensylvanicum

Striped maple is a shrub sometimes planted in yards or parks. The soft and fine-grained wood is sometimes used to decorate cabinets. In the 1700s, farmers fed fresh and dried striped maple leaves to horses and cattle, and in the spring, often turned the animals out to graze on the **buds** and new leaves.

Food for wildlife is the most important use of striped maple. It is a preferred species of food for rabbits and porcupine; striped maple is also eaten by moose and deer. The helicopterlike seeds are eaten by ruffed grouse. Sometimes beaver will also browse on the shrub.

Striped maple is found in select locations in the Lower Peninsula and is more common across the Upper Peninsula. It is a shrub found in the shady **understory** of **hardwood** forests. It grows best in locations with moist, sandy, nutrient **rich soils** where there is no standing water.

This small, shrubby tree gets its name from the white stripes that form on its greenish-brown bark. It often grows multiple stems. The stripes become somewhat faded as it grows older. The leaves are in the shape of a goose foot, which is also another common name for striped maple.

Striped maple trees are **native** to Michigan.

Deciduous or Coniferous?	**Deciduous**
Type of Leaf:	**Simple** with three distinct pointed **lobes** Leaves grow **opposite** on branch
Height at Maturity:	20 feet
Anishinaabemowin Word:	moozomizh
Claim-to-Fame:	Striped bark, easy to spot!

Sugar maple

Acer saccharum

Sugar maple is the most common tree used to make maple syrup commercially because its **sap** has twice the amount of sugar than other maples. Sugar maple is also known for its hard, heavy, and strong wood used to make furniture, flooring, tool handles, bowling pins, and musical instruments.

Squirrels, including flying squirrels, feed on the seeds, leaf **buds**, twigs, and leaves. Animals such as white-tailed deer, moose, and snowshoe hare feed on the young **sprouts**. **Pollinators**, including bees, feed on the early flower of the sugar maple.

Sugar maple is widespread in the Lower and Upper Peninsulas of Michigan. Sugar maple is most commonly found in **hardwood** forests that grow in **rich soils** that are moist, but it can also be found on drier sites. Sugar maple will grow in shady conditions and in time, it will tower over other trees in a forest.

Sugar maples have dense spreading **crowns** and can grow to be 100 foot tall and up to 500 years old in good soils. The leaves and branches of this tree grow **opposite** one another, meaning where one leaf grows from a twig, another leaf grows **opposite** it on the same twig.

The **palmate**, 5-pointed leaf of the sugar maple is featured on the Canadian flag.

Sugar maple trees are **native** to Michigan.

Deciduous or Coniferous?	**Deciduous**
Type of Leaf:	**Simple** with round **sinuses** and smooth **margins** Leaves grow **opposite** on branch
Height at Maturity:	100 feet
Anishinaabemowin Word:	aninaatig
Claim-to-Fame:	Friend to pancakes

Red mulberry

Morus rubra

The wood of the red mulberry does not make good timber but is used for farm tools, fencing, and boat building. The fruits, although not very sweet, are harvested to eat and make jams, jellies, pies, and drinks.

Native Americans, specifically the Choctaw tribe, processed the bark of young trees to make fibers, which they then used to make cloaks. The fruits are readily eaten by birds and small mammals. Red mulberry is found in the southern Lower Peninsula.

Red mulberry does best on moist soils that do not hold standing water. It can grow in the sun or with partial shade. Red mulberry has a full **crown** and usually remains small, rarely growing over 30 feet tall. Red mulberry twigs grow in a zigzag pattern and have small, straw-colored spots on them. The leaves are broad and dark green, with short white hairs. It is a shrubby tree, often growing multiple stems.

Red mulberry trees are **native** to Michigan.

Deciduous or Coniferous?	**Deciduous**
Type of Leaf:	**Simple, lobed** with pointed tips and teeth Leaves grow **alternate** on branch Can come in 3 different shapes: mitten, 3-lobed, and ovate
Height at Maturity:	Less than 30 feet
Claim-to-Fame:	Strong berry game!

THE OAKS

Oak trees are often called the *mighty oaks* because they are gargantuan! Their large size makes them a thirsty tree—some oaks drink up to 50 gallons of water each day. Oaks feed wildlife and are a highly beneficial tree to humans too.

Black oak

Quercus velutina

Black oak wood is used in furniture and flooring and is similar to red oak (and sometimes sold under that name). In the past, the yellow color under the bark was extracted to use as a dye for fabric. The bark itself was once used to tan hides to make leather.

Black oak trees produce acorns, which are eaten by a variety of wildlife including white-tailed deer, turkey, squirrels, mice, and other birds.

While small clusters of the tree can be found throughout Michigan's Lower Peninsula, black oak is mainly found in the southern and western portions of the Lower Peninsula. This species prefers to grow in dry areas where it will receive full sun (sunshine all day long).

The tree has a beautiful full shape typically with large lower branches. The bark of the black oak is nearly black, with bright yellow **inner bark**. They can live to be 250 years old.

Black oak trees are **native** to Michigan.

Deciduous or Coniferous?	**Deciduous**
Type of Leaf:	**Simple**, deep, irregular **lobes** with bristle tips Leaves grow **alternate** on branch
Height at Maturity:	Can reach 150 feet
Anishinaabemowin Word:	mitigomizh
Claim-to-Fame:	Acorns for wildlife

Bur oak

Quercus macrocarpa

Bur oak wood is durable and of high quality. The wood is used to make cabinets, flooring, and furniture.

Bur oak produces acorns that are eaten by a variety of wildlife including white-tailed deer, turkey, squirrels, mice, and birds. The long branches of a mature bur oak also provide roosting habitat to birds and squirrels.

Clusters or individual bur oak trees can be found throughout Michigan. Bur oak prefers deep **rich soils** and will grow well on both wet and dry soils. This tree species prefers to have full sun all day long. Bur oaks can live for hundreds of years. It is often as broad as it is tall with branches growing at 90-degree angles to the trunk. The bur oak is sometimes called mossycup oak because of the hairs that grow from the rim of the acorn cap.

Bur oak trees are **native** to Michigan.

Deciduous or Coniferous?	**Deciduous**
Type of Leaf:	**Simple**, rounded **lobes,** fiddle shaped Leaves grow **alternate** on branch
Height at Maturity:	Grows to reach 80 feet
Anishinaabemowin Word:	mitigomizh
Claim-to-Fame:	Very long lived

Northern pin oak

Quercus ellipsoidalis

The heavy wood of the Northern pin oak is used for furniture, flooring, shingles, and firewood.

The acorns are food for white-tailed deer, squirrels, and birds. Holes, or cavities, in the trunk are used by wood ducks, eastern kingbirds, and the once endangered Kirtland's warbler.

Northern pin oak is found throughout Michigan and is more common in the central portion of the northern Lower Peninsula and central Upper Peninsula, usually found growing near jack pine. Northern pin oak typically grows on dry, sandy soils low in nutrients. It prefers full sun and can live through periods of time without rain. It has a ragged appearance because its lower branches no longer produce leaves due to the shade from the upper branches.

Northern pin oak is distinguished from northern red oak by its ragged appearance. Northern red oak typically sheds it lower branches so that the trunk appears clean and tidy. The two trees also have similar leaves only the northern pin oak leaves have **sinuses**, or indents, that almost meet in the center.

Northern pin oak trees are **native** to Michigan.

Deciduous or Coniferous?	**Deciduous**
Type of Leaf:	**Simple**, thin, oval; **lobes** with bristle tips Leaves grow **alternate** on branch
Height at Maturity:	60 feet
Claim-to-Fame:	Provides food and shelter for wildlife

Northern red oak

Quercus rubra

Northern red oak is a valuable shade tree. The valuable wood from this tree is used to make furniture, cooperage (strips of wood used to make barrels), and flooring.

The acorns produced by this tree are eaten by a large variety of wildlife. Moose, white-tailed deer, and rabbits like to eat young seedlings, making it hard to grow new oak trees in some cases. The large, spreading nature of the northern red oak's branches provide cover for wildlife and nesting sites (including nesting cavities) for small mammals and birds.

Northern red oak is found throughout Michigan. It grows best in nutrient **rich soils** that do not hold water. This species can grow in shaded areas and will rarely take off to grow well unless a gap in the forest canopy has been created to provide more sunlight. Northern red oak can live to be up to 500 years old when growing on good soils. Trees begin to produce acorns when they are around 20 to 25 years old; full crops of acorns are produced from trees older than 40 years. Northern red oak leaves are similar to northern pin oak leaves but with more shallow **lobes**. The bark of this tree is its most distinctive feature with the bark forming flat ridges that resemble ski tracks. A pinkish-orange color appears between the ridges.

Northern red oak trees are **native** to Michigan.

Deciduous or Coniferous?	**Deciduous**
Type of Leaf:	**Simple**, many **lobes** with bristle tips Leaves grow **alternate** on branch
Height at Maturity:	Grows to reach 100 feet
Anishinaabemowin Word:	mashkode-miizhimizh
Claim-to-Fame:	Wildlife love those acorns

Swamp white oak

Quercus bicolor

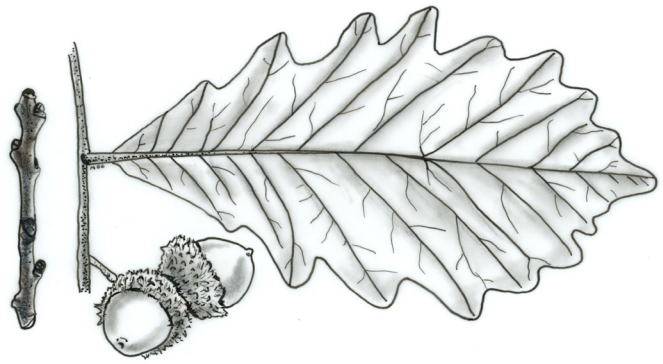
The wood from this tree was once used to make kegs and boards for barrels. Today, the tree is not generally harvested for timber due to the abundant branches that make the wood knotty.

The acorns produced by this tree are sweeter than other oak acorns and are an important food for white-tailed deer, bear, turkey, squirrels, and other small mammals and birds.

This tree grows in the southern portion of Michigan. As the name suggests, swamp white oak likes to grow in wet areas. It grows best in full sun in moist to wet deep soils, usually along rivers, streams, and in bottomlands. This tree develops wide-spreading branches that almost touch the ground, and it can live up to 350 years.

This large oak species has leaves with teeth, and very shallow **lobes**. The color of the leaves is one way to confirm this species with the upper part of the leaf being dark green and shiny and the underside of the leaf having a paler silvery white color.

Swamp white oak trees are **native** to Michigan.



Deciduous or Coniferous?	**Deciduous**
Type of Leaf:	**Simple**, rounded point at tip Leaves grow **alternate** on branch
Height at Maturity:	90 feet
Anishinaabemowin Word:	miizhimizh
Claim-to-Fame:	Sweet acorns for wildlife

White oak

Quercus alba

White oak's strong and durable wood is used for making barrels, construction, flooring, and interior woodwork.

The acorns produced by this species are eaten by white-tailed deer, squirrels, chipmunks, mice, and birds including quail, redheaded woodpeckers, blue jays, ducks, and turkey.

White oak is found throughout the southern Lower Peninsula and along the southern border of the Upper Peninsula. White oak grows well in coarse, deep, moist soils that do not hold water. It will grow under some shade and doesn't mind soils that are slightly acidic (from neighboring pines). This tree has large branches that can grow up to 50 feet long, giving the tree a large, full appearance.

The alligatorlike bark of white oak is light grey and **scaly**. On the underside of branches, the bark resembles long shingles hanging down.

White oak trees are **native** to Michigan.

Deciduous or Coniferous?	**Deciduous**
Type of Leaf:	**Simple**, rounded point at tip Leaves grow **alternate** on branch
Height at Maturity:	100 feet
Anishinaabemowin Word:	mitigomizh
Claim-to-Fame:	A giant among oaks

Osage orange

Maclura pomifera

The rot-resistant wood of the Osage orange was once prized for making hubs and rims for wheels of horse-drawn carriages and for timbers used to support mine shafts. This thorny tree was also planted extensively along the borders of farms as a **hedgerow** doubling as fencing to keep the livestock on the farm. Native Americans used the wood to make bows for shooting arrows.

Current research on the oil extracted from the fruit produced by Osage orange shows that it has potential as a biodiesel.

Osage orange provides good cover for birds and small wildlife. It grows in the southern Lower Peninsula and extensively in the central United States where it will grow well even on poor soils.

This is one busy tree, with far reaching large branches covered with thorns and ridged bark. Osage orange got its name from its orange-colored wood. This tree produces large, green fruits with a brainlike pattern that are the size of a softball.

Osage orange trees are **native** to Michigan.

Deciduous or Coniferous?	**Deciduous**
Type of Leaf:	**Simple**, smooth, oblong, glossy, pointed tip Leaves grow **alternate** on branch
Height at Maturity:	45–65 feet
Claim-to-Fame:	Gigantic fruit: looks like a green brain! Also, thorns

Pawpaw

Asimina triloba

The soft fruits of the pawpaw have a tasty banana flavor that can be used in ice cream and other desserts.

Squirrels and other wildlife also love the fruits.

Its natural range is limited to the southern Lower Peninsula. Pawpaw grows best in slightly moist, **rich soils**, under the shade of other trees. This tree can often be found in small clumps, since new shoots can grow from a mature tree's roots. A unique tree, it is related to many tropical species.

Pawpaw trees are **native** to Michigan.

Deciduous or Coniferous?	**Deciduous**
Type of Leaf:	**Simple**, smooth, oblong **Obovate** Leaves grow **alternate** on branch
Height at Maturity:	Rarely taller than 30 feet
Claim-to-Fame:	Incredible tropical tasting fruit in Michigan

Sassafras

Sassafras albidum

Native Americans used this tree for many purposes. Today, the orange-brown wood of sassafras is lightweight, durable, and used in boat construction.

The fruit, bark, and wood are eaten by black bear, beaver, squirrels, and rabbits. White-tailed deer like to eat the **foliage**. A number of birds eat and disperse the fruits. This tree grows throughout the southern Lower Peninsula. Sassafras grows well in moist soil that does not hold water. It can grow well when mixed with pine trees that make the soil somewhat acid. It prefers part to full sun.

Sassafras is a medium-sized tree with branches that spread around 12 feet in any direction. All parts of this tree are spicy and aromatic. The leaf can be **lobed** or not, making identification challenging. This tree flowers early in the spring and produces one berry per red-colored stalk in the fall months. The berry starts out red and eventually becomes blue.

Sassafras trees are **native** to Michigan.

Deciduous or Coniferous?	**Deciduous**
Type of Leaf:	**Simple**, mitten, three-**lobed** and oval shapes Leaves grow **alternate** on branch
Height at Maturity:	60 feet
Claim-to-Fame:	This tree smells! (but in a good way)

Staghorn sumac

Rhus typhina

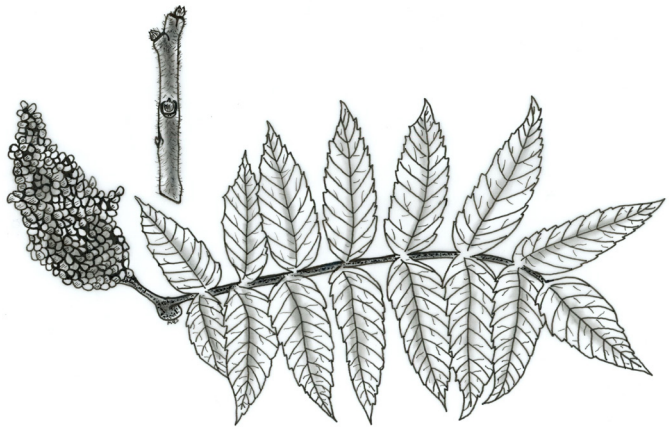
Staghorn sumac is planted on roadsides and in open fields where it soon becomes a cluster as the established roots will also **sprout** new trees.

Staghorn sumac is an emergency winter food for wildlife. Pheasant, quail, grouse, and turkey as well as 300 species of other birds eat the sumac berries in the fall and winter months. Staghorn sumac is found throughout Michigan. It prefers drier sites with nutrient **rich soil** and will grow in a variety of conditions, including on roadsides that are mostly gravel.

Sumacs usually grow in clusters. It is a shrubby tree often growing multiple stems. The thick, hairy twigs of this species are hard to miss. The **compound** leaves are one way to identify this small tree in the summer months; the flame-shaped fruit cluster defines this small tree in the winter. Note that only female plants produce seed, so not all of the small trees in a cluster will have flowers.

Staghorn sumac is **native** to Michigan.

Despite its name, this plant is not related to poison sumac which has white berries.



Deciduous or Coniferous?	**Deciduous**
Type of Leaf:	**Pinnately compound,** 7–11 **leaflets** per leaf Leaves grow **alternate** on branch
Height at Maturity:	20 feet
Anishinaabemowin Word:	baakwannaatig
Claim-to-Fame:	Red fruit clusters

American sycamore

Platanus occidentalis

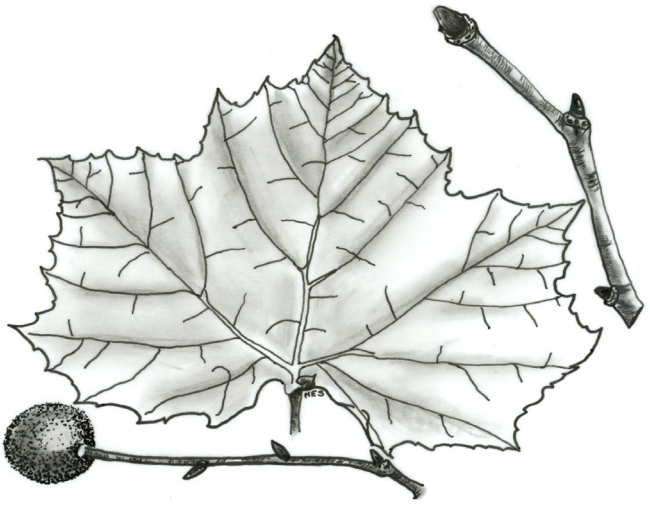
The wood of this species is heavy and tight grained, making it difficult to split. It is used to make butchers blocks, furniture, flooring, crates, and boxes.

The American sycamore tree provides good cover to wildlife and provides nesting sites to several bird species including wood duck and other waterfowl.

This species is found in the southern Lower Peninsula. It grows best in areas that are wet and that have nutrient **rich soil**. It usually grows near rivers and streams where it can survive its roots being underwater for 2 to 4 months during the growing season.

The darker, older bark on this tree falls off to expose patches of green, yellow, brown, and white bark. American sycamore twigs are zigzag shaped and the buds encircle the entire twig. The seeds of this tree grow in a cluster the size and shape of a gumball and are made of hundreds of individual seeds that can travel on the wind. (Pull one apart for identification.)

American sycamore trees are **native** to Michigan.



Deciduous or Coniferous?	**Deciduous**
Type of Leaf:	Gigantic leaf, shallow **lobes** with teeth, hairlike structures on underside of leaf Leaves grow **alternate** on branch
Height at Maturity:	Up to 120 feet
Claim-to-Fame:	Unique patchy, camo-looking bark

GLOSSARY

A

alternate A branching pattern where side branches, leaves, or leaf scars do not grow directly across from each other.

Anishinaabemowin A Native American language spoken by the Ojibwe people.

asymmetrical Uneven, such as with leaves, when one side is not the same size as the other side.

B

blunt Rounded, or without a point; usually refers to the shape of a terminal bud.

broadleaf Trees with flat leaves that are usually larger than ½ inch.

bud scar A mark on a twig that shows the end of growth for a year. By looking at the distance between bud scars, you can tell how much a twig grew in a particular year.

buds The beginning stages of both leaves and flowers. Leaves form as either *terminal* buds at the ends of twigs or *lateral* buds along the sides of twigs.

bundles Groups of needles held together at the base by a small papery wrap called a *fascicle* in members of the pine family (not other evergreens).

C

catkin A cluster of tiny flowers that forms a long, skinny, caterpillarlike shape.

compound leaves A single leaf with numerous leaflets. A leaf begins where the leaf stem connects to the wood tissue of the twig.

conifer A tree that has its seeds within cones, and usually with needlelike or scalelike leaves. Sometimes called evergreens or softwoods.

coniferous Of or relating to a conifer.

crown The shape or outline of the top of the tree that forms the skyline of a forest.

D

deciduous Trees and shrubs that lose their leaves or needles in the fall.

disturbance An event that creates an opening in a forest, such as fire, trees being removed by humans, or a tree falling over, which creates a space for growth of pioneer, or sun loving, species.

double-toothed See *toothed margins.*

E

elliptical Oval, or egg-shaped.

erosion Process by which soil, rock, or land is worn away by wind or water.

evergreen A tree with needlelike or scalelike leaves, also called a conifer or softwood tree.

F

fencerow A strip of trees that often separates farm fields, helps wildlife, and prevents erosion. A fencerow is sometimes called a hedgerow.

foliage A group of leaves or the leaves on a branch.

H

hardwood Broadleaved, deciduous tree.

hedgerow A strip of shrubs or low trees forming a hedge. A hedgerow is sometimes called a fencerow.

I

Inner bark Layer of the tree just under the tough layer (the outer bark) where nutrients and water are moved through. Wildlife often likes this as a food source.

Invasive Tending to spread quickly and aggressively to outcompete native species for food and habitat. *Invasive* species are plants or animals introduced to new environments that have these tendencies.

L

lateral On the side, as opposed to terminal, which is on the end.

leaf base The bottom of the leaf at the stem.

leaf scar The mark left on a twig after the leaf drops in the fall.

leaflet One of the small blades of a compound leaf.

lenticels Small bumps or spots on twigs that serve as breathing holes for the twigs.

lobes Parts of a leaf that stick out. Leaves that have these projections are *lobed* leaves.

M

margins The edge of the leaf, which may be toothed, smooth, lobed, entire, or another shape.

midrib The central vein in a leaf.

N

native A species that developed and evolved in a particular area and was present prior to European settlement.

naturalized Species which are not native, have been introduced, and now widely reproduces in our area.

node The joint or place on a twig branch where one or more leaves or twigs arise.

northern hardwood forest A certain type of forest ecosystem. Tree species such as sugar maple, yellow birch, American beech and white ash are indicators of northern hardwood forests.

O

opposite A branching pattern where side branches, leaves, and leaf scars grow from the stem directly across from each other.

obovate Leaves that are wider at the top and narrower at the base.

ovate Leaves that are shaped like an egg; broader at the base.

P

palmate A particular shape of leaf where the main leaf **veins** begin at the same place near the leaf stem. In a compound leaf, it can also refer to the pattern of the leaflets. It is called palmate, because it spreads out, like fingers spread out from the palm of the hand.

petiole The stem that connects a leaf to a branch.

pinnate Where the veins of a leaf (or leaflets of a compound leaf) come off a single center vein; similar to a feather.

pioneer species The first species to come back in an area that has been disturbed (*see disturbance*).

pith The center or inside of a twig, branch, or stem.

plywood A wood product made from thin layers of wood glued together.

pollinator An animal that carries pollen from one plant or part of a plant to another so that new plant seeds can be produced.

poorly drained soil A soil that tends to be wet and often has more clay than other types of soil.

pulp A material made from wood; good for making paper.

R

resin Sap from a tree that hardens into a sticky substance.

rich soil Soil with lots of nutrients that help plants grow.

S

samara Thin papery "wings" attached to the seed, sometimes called helicopters because of how they fall.

sap The "blood" of a tree that comes out when a tree is injured; the liquid inside of some trees that can be boiled into syrup.

scale-like Evergreen needles that are flattened and overlapping; bark that has small shingle-like flaps.

simple leaves A single leaf that is never divided into smaller leaflets.

sinuses The area between lobes.

softwood An evergreen or conifer tree.

species A kind or type of plant or animal; a group of scientifically similar organisms.

sprout (noun) A young shoot that grows from a seed or root; new growth
(verb) To start new growth.

T

toothed Leaf margins with variously sized and shaped "teeth" that help identify the species. *Single-toothed* means all teeth are about the same size and shape. *Double-toothed* means a fewer number of larger teeth with many smaller teeth on them.

U

understory Shorter trees that are often nestled under taller trees.

upland Drier areas of land that are higher in elevation.

V

veins Lines in a leaf that move water and food in a plant, similar to veins in a person.

veneer A thin, pretty layer of wood often glued over rougher looking wood.

W

well-drained soil A soil that tends to be dry and often has more sand in it than other types of soil.

whorl An arrangement of three or more similar leaves or branches arising from a single node.

ILLUSTRATIONS

SHAPES OF LEAVES

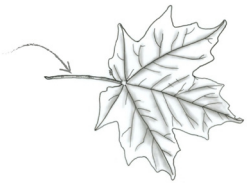
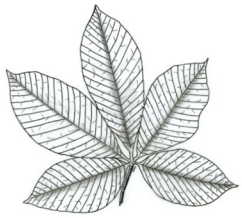
			
Lance	Ovate	Obovate	Elliptical

LEAF MARGINS

			
Entire	Toothed	Double-toothed	Finely toothed

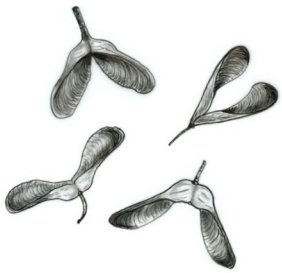
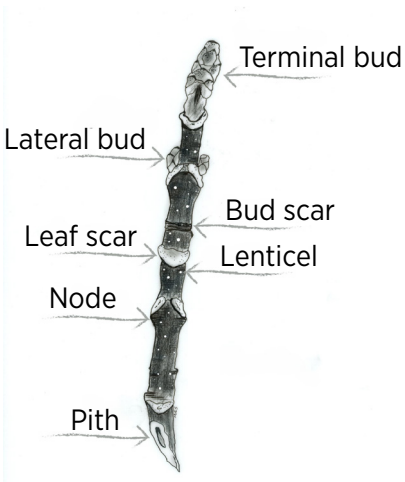
		
Serrated	Lobes	Sinuses

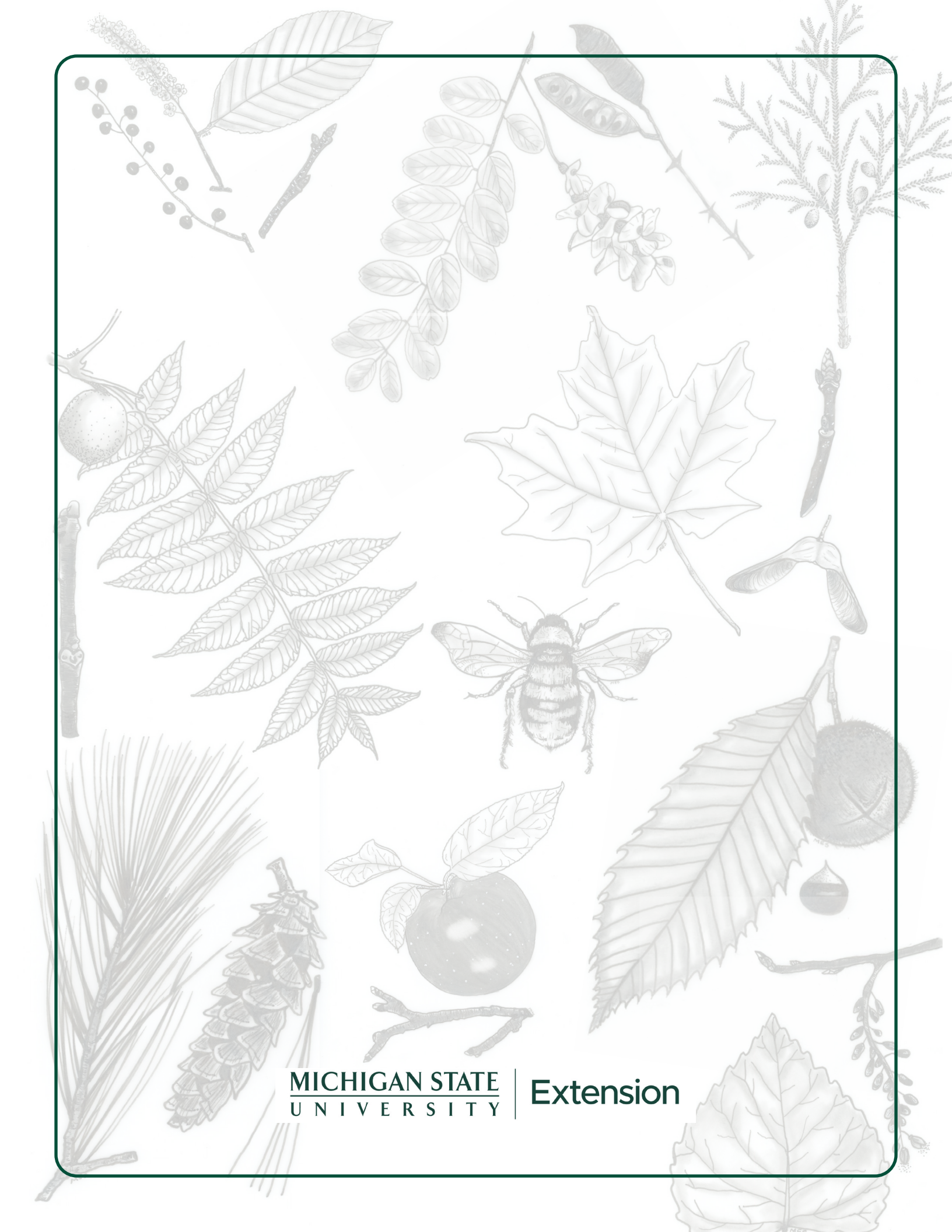
PARTS, TYPES, & POSITIONS OF LEAVES

			
Petiole	Pinnately compound	Bi-pinnately compound	Palmately compound

		
Whorled	Alternate	Opposite

OTHER FEATURES

		
Catkins	Samaras	



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