



MICHIGAN COMMUNITY  
**TREE SPECIES  
SELECTION  
GUIDE**



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# Michigan Community Tree Species Selection Guide

## Acknowledgements

### Contact

Lawrence Law, LawL1@Michigan.gov  
Michigan Department of Natural Resources  
Forest Resources Division  
Urban and Community Forestry Program

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### Project Developed by;

- **Lawrence Law**– Michigan DNR UCF Program
- **Julie Crick**– Michigan State University Extension
- **Anna Ellis**– Michigan State University Extension

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Recognition and thanks to all the people who offered assistance with this project.

### Project Contributors

- **Kevin Sayers**, Michigan DNR UCF Program
- **Kerry Gray**, Michigan DNR UCF Program
- **Daphna Gadoth**, Michigan DNR UCF Program
- **Katie Grzesiak**, Michigan DNR Wildlife Division
- **Kathleen Lavey**, Michigan DNR Communications
- **Zoi Goss**, Michigan DNR Communications
- **Amber Pratt**, Michigan DNR Communications
- **Michael Hindy**, Michigan DNR Resource Assessment Section
- **Andrea Stay**, Michigan DNR
- **James Wieferich**, Michigan DNR Forest Health
- **Simeon Wright**, Michigan DNR Forest Health
- **Erin Biggs**, Michigan DNR Forest Health
- **Gary Eichen**, SavATree
- **Lee Mueller**, Davey Resource Group
- **Bert Cregg**, Michigan State University
- **Josh Shields**, Manistee and Mason-Lake Conservation Districts
- **Ellie Johnson**– Leelanau, Benzie, and Grand Traverse Conservation Districts
- **Nia Becker**, Dovetail Partners LLC
- **Winona Grieshop**, Michigan State University
- **Kevin Drotos**, Edsel Ford House
- **Susie Iott**, Michigan Department of Agriculture and Rural Development
- **Robert Miller**, Michigan Department of Agriculture and Rural Development
- **Elise Schadler**, Vermont UCF Program
- **Christina McLaughlin**, New York UCF Program
- **Gretel Huber**, Harvard University Museum of Comparative Zoology

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# Michigan Community Tree Species Selection Guide

## Introduction

Selecting the right tree for the right place is one of the most important steps in any tree planting project. Whether planting in a park, along a street, in a residential neighborhood or on a campus, thoughtful planning can save time, reduce costs, and minimize long-term maintenance. To ensure that trees thrive and deliver long-term benefits, careful planning and informed species selection are essential.

The **Michigan Community Tree Species Selection Guide (MiCoTSS)** is designed to help communities across the state make informed tree-planting decisions. It offers practical, science-based guidance for selecting tree species based on local site conditions, community needs, and long-term goals. The guide is especially useful for individuals with limited tree knowledge, providing clear concepts and easy-to-follow guidance to support successful planting efforts.

This guide focuses on species commonly available in Michigan nurseries. Because the state spans multiple hardiness zones and includes a wide range of climatic conditions, not every tree that can grow in Michigan is included here. Instead, the guide emphasizes species that are well-suited for **managed landscapes**—settings that differ significantly from natural forests. In urban and suburban areas, trees are typically planted as individuals to meet specific objectives such as providing shade, improving aesthetics, managing stormwater, reducing noise, or enhancing safety. Examples of managed landscapes include:

- Downtowns and village centers
- Residential streets and neighborhoods
- School, business, or hospital campuses
- Parks and urban green spaces
- Cemeteries
- Parking lot green spaces
- Street medians and highway corridors
- Drainage canals
- Private yards

This guide **is not intended** for use in ecological restoration or riparian stabilization efforts, where species selection and planting strategies require a different approach.



# Michigan Community Tree Species Selection Guide

## Introduction continued

### Why planning matters

Trees are **living infrastructure** that take years to grow, mature and provide their full range of benefits. Once established, trees offer decades of valuable services: cooling neighborhoods, improving air quality, reducing stormwater runoff, and enhancing quality of life, to name just a few. However, trees that grow within communities face unique challenges — compacted soils, limited root space, air pollution, drought, salt, and physical damage. **Choosing the right species, planted in the right place, and planting for the right reason gives them the best chance to survive and thrive.**

The most successful planting projects begin with clear goals and a strong understanding of local conditions. Poor planning can lead to expensive maintenance, early tree loss, and negative public sentiment. But with the right information and approach, your planting projects can be long-lasting community assets.

### Foundations of successful tree-planting projects

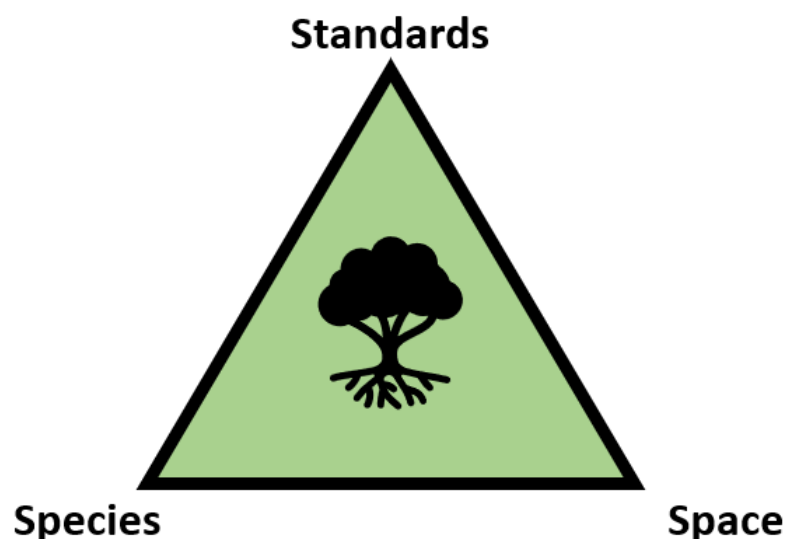
Three core characteristics will support long-term tree success:

**Standards:** Local ordinances, policies, and design standards that prioritize tree canopy health, planting quality and maintenance over time.

**Space:** The physical conditions of the site where the tree will be planted, including soil volume, drainage, rooting space and infrastructure.

**Species:** Ensuring that the selected species' maintenance needs, tolerances, and growth form are suitable to the site and purpose.

It is essential that all three of these characteristics are considered during the planning and species selection process. Weakness or lack of consideration in any of these areas can lead to poor outcomes. Thoughtful attention during the planning and planting phases will increase the lifespan and impact of your tree investment.



# Michigan Community Tree Species Selection Guide

## How to use this guide

MiCoTSS is meant to serve as a practical tool to support the tree selection process. It should be used alongside guidance from local arborists and landscape professionals, planning documents, ordinances and other tree research to guide your decisions. Below is a general process to follow:

### **Define the purpose of the planting**

Identify the primary goals of your planting project. For example, are you trying to increase shade for pedestrians, reduce stormwater runoff, beautify a streetscape or create wildlife habitat? Clearly defining your purpose and objectives will help narrow down suitable species.

### **Understand your site conditions**

Evaluate site-specific characteristics that affect species suitability. Consider overhead utility lines, available soil volume, drainage, sun exposure, existing infrastructure, road salt exposure and other constraints.

### **Identify your plant hardiness zone**

Determine your current and projected USDA plant hardiness zone, as well as any relevant regional or local climate factors that may influence tree survival and performance now and in the decades ahead.

### **Review community tree inventory data**

If your community has a tree inventory, use it to identify overrepresented or underrepresented species in the tree canopy. Diversifying the species you choose to plant can help reduce risks associated with pests, disease, and climate stress.

### **Check local rules and permissions**

Before planting, confirm land ownership or easements and check for historic or landmark protections. Coordinate with your planning, zoning, or public works departments to identify planting restrictions and right-of-way boundaries. Always confirm that species planned to be planted are not prohibited within the community.

### **Collaborate with local experts**

Consult certified arborists, landscape professionals, and local tree boards. Use this guide as a foundational reference to guide conversations and decisions.

It's natural to feel overwhelmed with so many factors to consider—but don't worry, you've got this! You don't have to be a tree expert to make good decisions.

Use this guide as a tool, lean on local resources, and remember: Every tree you plant today will benefit your community for generations to come.



# Michigan Community Tree Species Selection Guide

## Guiding Principles for Tree Planting in Michigan

This guide is intended to support the planning and design of tree-planting projects in community landscapes with the goal of building a healthy, resilient, and sustainable community forest. The following guiding principles provide a foundation for making informed, strategic decisions that maximize the long-term benefits of trees in Michigan communities.

### Recognize the full value of trees

While trees are often planted for their beauty, they provide many ecological, economic and human health benefits that go beyond aesthetics. Trees should be viewed as vital, cost-effective infrastructure. When properly maintained, they offer increasing value over their lifetime. A list of tree benefits can be found in the Benefits of Trees section of this guide.

### Variety is key

Planting a wide variety of tree species across streets, yards, and public green space strengthens the health and resilience of the urban forest. Just as ecosystems thrive with a mix of plants and animals, communities benefit when no single tree species dominates the canopy. Greater diversity helps reduce the risk of widespread damage from pests, diseases, or environmental stress. This guide includes a broad selection of recommended tree species that support this approach. If your community has a public tree inventory, use it to identify species that are overplanted or underrepresented and guide your planting decisions accordingly.

### Consider native and non-natives species

Native species are generally preferred, as they are well adapted to the local environment and less likely to disrupt natural ecosystems. However, due to changing hardiness zones and environmental conditions, non-native (but non-invasive) species may be suitable or even preferred in some situations. Avoid planting ornamental or non-native species in areas adjacent to natural wetlands, woodlands, or waterways. This helps prevent unwanted spread into natural areas.

### Plan for the long-term

Trees are living infrastructure and a long-term investment in the community. Because they take years to grow and mature, planting efforts should be designed with at least a 20-year horizon in mind. To ensure continued care, long-term plans should be developed, documented and passed down to future stewards. Clearly communicate the lasting value of these investments to decision makers and the public to ensure that tree initiatives are supported and sustained well beyond the initial planting.

### Be adaptable

This guide was developed based on current science and professional expertise relevant to tree species in Michigan. However, factors such as climate change, tree pests, and other stressors may impact the long-term use of certain species. Guidance and best practices will evolve over time.



# Michigan Community Tree Species Selection Guide

## Benefits of trees

A tree provides many benefits to the space where it is planted, whether they are economic, social, aesthetic, environmental or a combination of these. It is important to identify which benefits you would like to maximize before selecting a species, as some trees will meet certain criteria better than others. The goal should be planning for the long-term health and success of trees in the same way we plan for road, sewer, and utility infrastructure. The benefits with trees increase over time, which makes it a rare instance of infrastructure that appreciates in value. Consider and understand the long-term planning and responsibility of trees before planting.

### Economic benefits

- Stabilize property values
- Encourage patronage of downtown retail and tourism by creating an inviting environment
- Increased spending in shaded commercial districts
- Reduced energy costs
- A living infrastructure that increases economic benefit over time

### Social benefits

- Instill community pride and identity
- Provide a quiet, peaceful environment
- Offer outdoor recreation such as bird-watching
- Reduce crime and improve residents' mental health
- Increase public health through filtration of air and water
- Slow traffic when planted near roadways
- Improve community aesthetics



### Aesthetics

- Provide color, flowers, or fruit
- Complement a building, landscape, or beautify an area
- Encourages community members to support and appreciate beautiful trees

### Environmental improvement

- Reduce soil erosion
- Intercept and filter stormwater
- Improve air and water quality
- Offer shade in the summer
- Reduce winds in the winter
- Provide food and shelter for wildlife
- Reduce noise by buffering sound
- Increase plant diversity
- Mitigate impacts of climate change
- Reduce heat impacts
- Increase community resilience to climate change
- Provide resources for wildlife

### Avoidable negative impacts

You should also consider long-term problems that could arise with certain trees. Not all species traits will match your desired outcome.

Examples of potentially undesirable traits include:

- Litter with messy fruit, branches, or large leaves
- Conflicts with utilities
- Costs for establishment, maintenance, and removal
- Flowers with unpleasant odors
- Unintended spread of invasive species
- Pollen/allergen concerns

### Calculate Impact!

Visit the i-Tree online suite of tools to learn more about the benefits provided by the trees around your home and neighborhood.

**[www.iTreetools.org](http://www.iTreetools.org)**

# Michigan Community Tree Species Selection Guide

## Climate, Zones and Conflicts

### Shade competition

The ability of the leaves in a tree's crown to capture sunlight and produce food for the tree plays a critical role in the overall success of that tree. The roots must be able to support the crown with water and nutrients, and the crown must be able to provide the energy needed to grow through photosynthesis. Consider any characteristics of your site, such as shade from structures and other trees that might inhibit the growth of a healthy tree crown. In general, trees planted on the southwest side of structures usually receive more sunlight than trees on the northeast side. Be aware of the light requirements for species and the shadows other trees and structures could cast at different times of day.

### USDA Plant Hardiness Zones

Exposure to elements is important to consider, because not all tree species can tolerate extreme conditions. The United States Department of Agriculture (USDA) has identified Plant Hardiness Zones that denote the average annual minimum winter temperature of a given region. Plant rating for hardiness zones is based on the plant's ability to survive over winter at the specified average minimum extreme winter temperature. The lower the temperature, the lower the zone number. These zones have changed over time and we must consider future changes when choosing what species to plant. If you garden in your free time, you might already be aware of the plant hardiness zones and know that this is your base limiting factor when choosing species. Referencing the 2023 zone map, Michigan covers zones 4a through 6b. Due to the moderating effect of the Great Lakes, coastal areas adjacent to the lakes tend to be buffered from temperature extremes. This allows for a greater range and number of species to be planted in these areas.

Picture: White Fringetree (*Chionanthus virginicus*) is native to the southeast United States but is doing just fine in this photo from East Lansing, Michigan. This is an example of assisted migration of a southern species to Michigan.

### Climate adaptation

Plant Hardiness Zones are not static and change over time due to climate change. Trees live as long as we do, if not longer, so it would be appropriate to prepare for the future and plant species that would be suitable for the next zone rather than the current zone. For example, current climate models estimate that Detroit could be in Zone 7b by 2050. Projects should consider the impact climate change will have on the community's trees and what species could adapt better to those changes. Climate change disproportionately benefit invasive species, pests, and diseases over native trees. We can increase resilience to these changes by assisting migration of species in adjacent warmer climates. Placing these trees into our managed landscapes helps assure they will be better adapted.

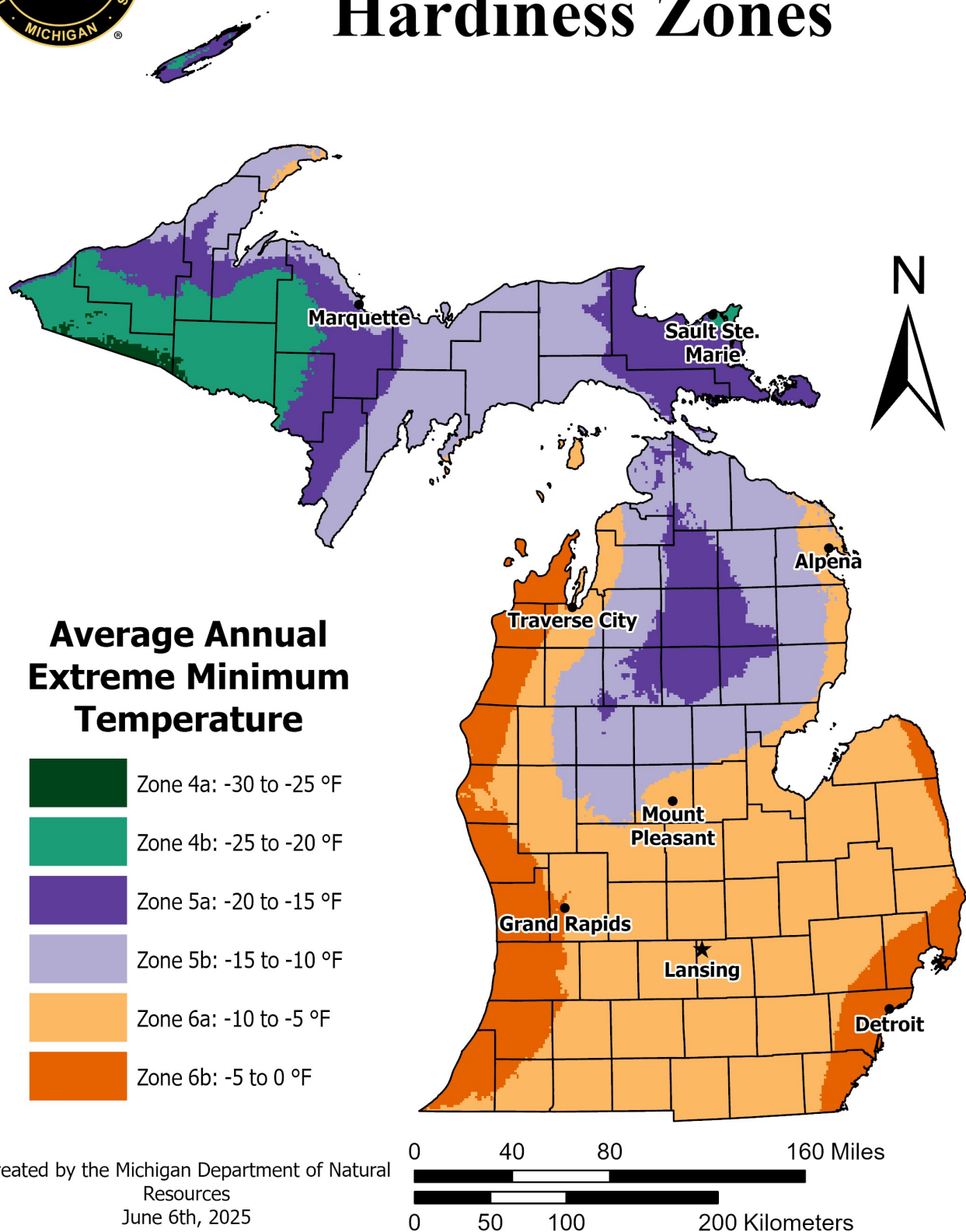
### Compatible use conflicts

When planting close to roadways, sidewalks, and businesses, consider the mature height, spread, and form of the tree you intend to plant. While some businesses might take issue with trees blocking their signage, there is no evidence to support a drop in business due to trees. In fact, there is evidence of higher foot traffic. It is important to take the concerns of stakeholders such as pedestrians, motorists, cyclists, businesses, bus lines, and utilities into consideration to minimize conflict. Coordination of expectations and benefits should be communicated to alleviate concerns.





## 2025 Michigan Plant Hardiness Zones



Created by the Michigan Department of Natural Resources  
June 6th, 2025

# Michigan Community Tree Species Selection Guide

## Soil Considerations

The success of a tree is largely determined by the health of its root system. Roots provide the structure necessary for a tree to remain upright and transfer the water and nutrients needed for growth. Roots require water, nutrients, and oxygen to survive. If a tree's roots are constrained, damaged, or deprived of water and nutrients, health issues will eventually arise. Luckily, many of these limitations can be assessed before planting by examining the condition of the soil at your desired location. Some sites will support certain species wonderfully but will be ill-suited for others.

### Soil texture

Soil texture influences a soil's relationship to water and is largely determined by the soil's relative amounts of sand, silt, and clay. Some soils can hold ample nutrients while others easily lose nutrients through leaching. Clay soils retain moisture and nutrients but are prone to compaction and drainage issues. Sandy soils drain quickly and resist compaction, but can be nutrient-poor and more prone to drought. You can determine a soil's texture by rubbing moistened soil between your fingers: Sandy soils feel gritty, clay soils feel smooth, and loamy soils are a balance of both.

Managed landscapes can sometimes contain backfilled construction debris instead of proper soil. If planting a tree in these areas, try to remove as much construction backfill as possible and replace with a more suitable, native soil for the species you plan to put there. Some tree species can tolerate construction backfill to a degree, but these trees seldom thrive.

### Soil structure and compaction

The most common threat to soil health in urban areas is compaction, which destroys soil structure by reducing pore spaces needed for air, water, and roots. Common sources of compaction are heavy equipment, vehicles and foot traffic. Compaction can be mitigated by planting more tolerant tree species, altering the soil with amendments, or breaking up compacted soil with an air spade or other tools. A good rule of thumb: If there isn't grass growing in an area, it likely isn't a good area for a tree.

### Drainage

Drainage is the soil's ability to intercept and remove surface or groundwater and is influenced by soil texture and structure. Clay soils often lack pore spaces to allow water to drain freely, limiting the availability of oxygen to the roots. Sandy soils with large pores have high drainage but hold little water and are only suitable for specific plant species. Soil compaction and obstacles such as bedrock and other impermeable objects beneath the soil can also inhibit drainage. The addition of organic matter (i.e. mulch) or choosing drought tolerant species is recommended for dry and quick-draining soils; managing rainwater and choosing species that can tolerate intermittent flooding is recommended for wet and slow-draining soils. Impermeable surfaces such as roads and sidewalks make it difficult for trees to intercept stormwater. Installing permeable pavement, bioswales, and rain gardens can accommodate trees in areas with impermeable surfaces without sacrificing drainage.



The area to the left shows a compacted area where grass will not grow. This can be mitigated with a cushion of mulch or use of weight distribution mats for heavy equipment during times of construction. This can be remediated by an air spade, aeration, or physical agitation using other equipment.

# Michigan Community Tree Species Selection Guide

## Soil Considerations continued

### Soil Volume

Soil volume is the amount of soil available for root growth. Inadequate rooting space will limit the soil interactions necessary for successful plant growth. Common barriers to rooting space include sidewalks, roads, underground obstacles, utilities, and containers. Tree roots need the combination of water, oxygen, and nutrients and those can't be optimally provided if there is compaction or hardscape over the roots.

Most tree roots grow near the surface, primarily in the top 2 to 3 feet of soil. Tree roots usually spread out 1.5 to 4 times the size of the tree's canopy but will be stopped by impermeable surfaces or heavy compaction. When selecting sites, it is important to have at least 3 feet deep of uncompacted soil and a minimum square foot area of 4 feet by 4 feet. Anything less than 16 square feet should not have a tree planted but instead consider a shrub or herbaceous plants.

In situations where soil volume is restricted but greater than 16 square feet, smaller tree species with less-extensive root systems can be selected. Trees that are more tolerant of drought and heat will also fare better in these circumstances. Consult professionals if there is a need to increase available soil volume for tree roots and meet load-bearing requirements for structurally sound pavement installation.



### Soil pH and Plant Nutrients

Soil pH and plant nutrients are crucial in determining a site's suitability for plant growth. Most plants require a balance of 10 to 14 essential nutrients to thrive. Nutrient deficiencies or toxicities can decrease foliage quality and growth rate, and increase susceptibility to pests and diseases. The availability of these elements to trees is affected by soil pH and organic matter content. A pH range of 5.5-7.0 is preferred by most species.



### Road salt

Road salt is used to de-ice roads and sidewalks in the winter. Continuous use of salt can reduce water absorption, nutrient uptake, root growth, and long-term plant growth. Select tree species with a higher salt tolerance for planting near areas that receive regular salting. Trees within 25 feet of a regularly salted road, sidewalk, or parking lot are most susceptible. Planting farther away from, or above the grade of, the roadway can help reduce the impacts of salt accumulation on trees. If you have a tree within 25 feet of a regularly salted surface, you can plant buffer shrubs and herbaceous plants that tolerate salt better, such as aromatic sumac, to insulate the tree from salt damage.

Connected greenspace increases the amount of water and nutrients available to the tree and should be prioritized over fragmented planting sites. Yellowing leaves could be an indicator of pH issues or a nutrient deficiency.

# Michigan Community Tree Species Selection Guide

## Above Ground Considerations

### Utilities

When planting, take into account the utilities above and below ground in the area. Always call MISS DIG at 811 to mark any underground utilities at least three days before planting. Tree roots will grow where water and nutrients are present. If sewage pipes, septic tanks, or stormwater infrastructure is damaged, there could be infiltration of tree roots through the cracks.

Power lines and above-ground utilities compete with trees for canopy space. Branches around power lines present a risk to safety and utility service and could cause disruption that can have dire consequences. Depending on the line type (transmission, primary, secondary, and communications) trees near them will be occasionally pruned or removed based on utility specifications.

Only plant small trees and shrubs (maximum mature height of 25 feet) within 10 to 25 feet of powerlines. Anything right underneath the lines could be subjected to heavy pruning or removal during periodic utility maintenance. Check with your local utility provider for more information.

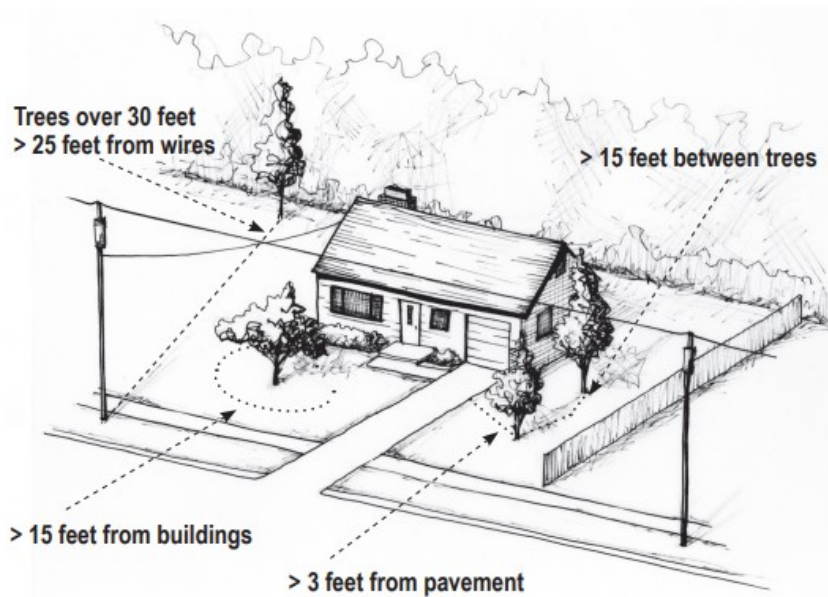


### Spacing

Refer to the figure below from the USDA Tree Owner's Manual for tree spacing in the landscape. Trees planted 20 to 25 feet from each other increase competition between them, causing a more upright form. Trees planted 40 to 60 feet apart will grow wider due to availability of space and light.

Plant trees at least 15 feet from buildings and ideally three feet from pavement. Properly planted trees have a lower chance of buckling pavement by pushing up with roots. Right-of-way and tree planting area size requirements are listed in the Planting Area section of the Species List Categories page of this document.

Don't plant any tree in an area 4 feet by 4 feet or less. These small areas are commonly known as tree coffins. It is preferable to have connected planting space instead of solitary islands of trees so that trees can share resources through their roots.



Large trees like the silver maple in the left figure will eventually interfere with utility wires and should not be planted near them.

# Michigan Community Tree Species Selection Guide

## Long-Term Sustainability

### Prioritize characteristics

Choose plants based on their hardiness for environmental conditions, prevention of infrastructure conflicts, and long-term sustainability of the urban forest. It may be difficult to find the perfect tree that will fit a complete list of selected criteria, and understanding the purpose of the planting can narrow the list and avoid unforeseen complications. Green infrastructure is the only infrastructure that will increase in value over time if the “right tree” is put in the “right place.”

### More variety, less risk

A wide variety of species in our urban ecosystems is important. Not only do the variety of tree shapes and sizes create aesthetic appeal, but they also increase diversity and can help prevent species-specific insect or disease outbreaks. Municipalities with many different tree species are better adapted to climate change, see increased benefits than communities without variety, and are more resilient to tree pests and diseases.

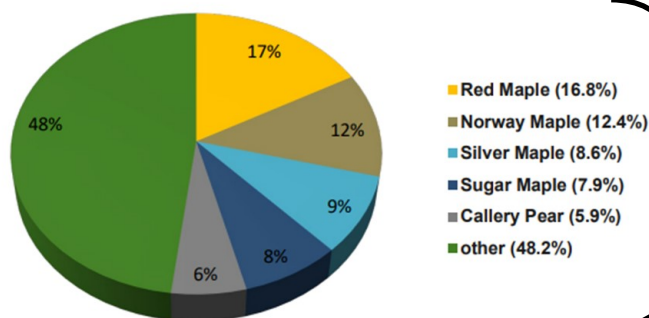
Species variety, or diversity, refers to the number of species present and the proportion of each species relative to others in a given area. Maintaining a predetermined proportion, such as specifying that no one genus of trees (i.e. oaks), should comprise more than 20% of the neighborhood tree population, is a good start. Municipalities should ideally have a mix of no more than 10% of a species, 20% of a genus, or 30% of a taxonomic family for tree species. In the community forestry world, we know this as the 10/20/30 rule and it helps us guide our decisions when selecting species.

### Pest and disease awareness

Valuable lessons about pests and diseases in urban forests came in the wake of the introduction of Dutch elm disease in the 1930s and, more recently, the emerald ash borer in 2002. In both cases, elm and then ash trees were considered ideal street trees and were planted extensively without regard to species diversity. The monoculture of elm and later ash species allowed Dutch elm disease and the emerald ash borer to spread quickly, resulting in mass mortality. This left municipalities and landowners bearing the cost to remove and replace millions of trees. There are always new introductions of insects, types of fungus, and other vectors of tree mortality that are in play. Your awareness of them should influence species selection. Prioritize cultivars that display resistance to pests when possible.

### Form for function

Tree growth form along with its mature height and spread help determine appropriate sites for species. Form refers to the growth pattern and shape of the trees branches. Some are ideal for roadways and rights-of-way such as columnar, vase, and upright oval forms since their branches are above vehicles, pedestrians, and traffic signage. If a species is ideal for a site in every characteristic except form, check if there is a cultivar with a different form that would be suitable. To an extent, form is also determined by spacing. More vertical growth occurs with trees spaced 20-30 feet from each other compared to 40-60+ feet apart because of light competition. Some species may change form with maturity.



The pie graph breaks down the results of an inventory of a Michigan community with 45.7% maples in its tree canopy.

This is much more than the 20% we would ideally want, so all future projects and plantings should proportionally favor other species over maple until an appropriate

# Michigan Community Tree Species Selection Guide

## Native, non-Native and Invasive Species

Trees native to Michigan are species indigenous to Michigan before European colonization. An example of a native tree in Michigan is the Red Oak (*Quercus rubra*). Native tree species provide the most ecosystem benefits to an area, but may not always be the most suitable for urban environments. They should be prioritized when urban conditions are appropriate.

Trees that are non-native to Michigan are tree species that are indigenous elsewhere and can survive in Michigan without causing harm. An example of a non-native tree species in Michigan is Gingko (*Ginkgo biloba*), which is native to East Asia. Gingko trees are a good example of a non-native tree that is not considered invasive because of its slow growth rate and difficulty establishing from seed. Its inability to establish in native woodlands and its resilience in urban conditions make it a great tree for managed landscapes. The non-native species recommended in this guide currently have low or no known invasive potential.

Some trees can be non-native to Michigan but be native elsewhere within the United States. These species should be considered before looking at non-natives from outside of North America. An example of this would be Bald cypress (*Taxodium distichum*) which is native to the Southeast United States and is cold hardy enough to be a viable species in Michigan. However, species native to the United States can still have invasive characteristics, so consulting with experts is advised before introducing a new species.

The white flowering trees in the photo (Callery Pear) below have escaped their landscape planting in a business parking lot and have spread to a local agricultural field in Macomb County.

### Potentially invasive trees

Planting non-native, or exotic, trees in the landscape is an age-old tradition for the diversity and beauty these unique trees bring. Through the years, we have come to realize that some non-native trees have aggressive growth habits that result in them invading natural areas like wetlands and woodlands. Once established, these invasive exotic plant species can significantly disrupt habitats and ecosystem processes. Removing invasive species is costly, and eradication is rare after establishment and spread. The best practice is to be informed and prevent invasive species from establishing. Some of these species were considered to have sterile seeds, but their sterility wanes over time and could infiltrate the natural landscape accidentally.

Several other tree species have weak wood, are vulnerable to pests or diseases or have the potential to become invasive, as evidenced by aggressive reproductive and/or growth habits near natural areas in other states with similar growing conditions.

### Invasive trees

An invasive is a species whose introduction to an environment causes, or is likely to cause, economic or environmental harm. Under no circumstances should you plant invasive species in your landscape. Most invasive species are planted because they are said to grow quickly or look nice, because people planting them are unaware of invasive characteristics. Invasive species offer little to no ecological or economic benefits. These species spread quickly through seeds or root suckers and outcompete native vegetation.



# Michigan Community Tree Species Selection Guide

## Tree Purchasing Considerations

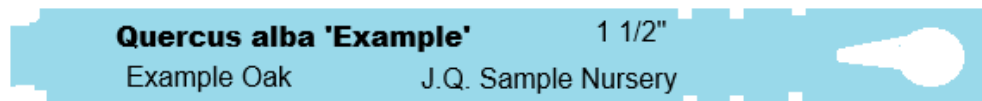
### Understanding tree species names

Trees can be referred to by different names depending on who you talk to. You will usually see a tree listed as one of the three name types below:

**Common name:** What a species is commonly called. The same tree species can be known by different common names, usually varying by region, and could sometimes be replaced by their trade name. Our example from the tree tag below would be White Oak.

**Botanical name:** This is the scientific or Latin name for the species and is standard regardless of region. It consists of two parts, the first being the genus which is a noun and always capitalized. The genus is the larger taxonomic layer of a group of species. In the tree tag example below, the genus is *Quercus* which encompasses all oak trees. The second part is the species epithet and is usually an adjective and lowercase. Example from below would be *Quercus alba*. If it is a hybrid between species it is usually denoted by an 'x'. Trees in this list are arranged alphabetically by botanical name. When purchasing a tree, try to identify it by botanical name to ensure and confirm your desired species.

**Cultivar name:** The trade name of the species when it has been propagated for ornamental or specific use. These are trees that have specific traits unique from its general species and can be trademarked. It is referred to as the cultivar throughout this guide. The cultivar name is enclosed in single quotation marks after the botanical name, but can sometimes override the common name. We see in the example below that even though the tree is a White Oak, the cultivar 'Example' takes precedent and is labeled Example Oak. This is common for cultivars in a nursery setting.



### Selecting tree stock to purchase

Purchase stock from a reputable state-licensed nursery. Resources for state-licensed nurseries and landscape professionals are in the resources section of this guide. Planting trees between 1.5 to 2.5 inches in trunk diameter is recommended, but trees can be smaller or larger based on project specifics. Keep these considerations in mind when choosing tree stock:

1. Select the appropriate stock for your planting needs:
  - **Bare root:** Small trees that are easy to transport and plant but require consistent moisture before planting. Tree mortality due to dry/dead roots can be a common issue.
  - **Container:** Usually smaller in diameter than balled and burlap trees. Requires more root preparation when planting by shaving off girdling or circling roots.
  - **Balled and burlap (B&B):** Usually larger and heavier trees; these are the most commonly planted in municipal projects. Root flare needs to be excavated to find proper planting height.
2. Inspect the roots and the root collar to be sure there is no girdling/circling roots.
3. Inspect the trunk for signs of damage or weakness in the bark.
4. Inspect the crown for an obvious central leader and/or strong branch attachments, or U-shaped unions with a visible branch collar at trunk attachment.

If the purchased trees are damaged or have poor root structure, you should reject them and return them for a replacement or refund.

# Michigan Community Tree Species Selection Guide

## Deciduous Species List Introduction

### Overview

Deciduous trees are species that drop their leaves annually and are sometimes referred to as broadleaf trees.\* They are commonly preferred by communities because of their wide variety and availability. Their dormant period in the winter allows sunlight to melt ice and snow along sidewalks and roads, while in the growing season the leaves shade those areas.

This list is divided up into three sections. The “At a Glance” section is sorted by alphabetical common name of species and includes the botanical name and MiCoTSS rating. The MiCoTSS rating is unique to this guide and takes into account weighted factors that express the suitability of species in Michigan’s managed landscapes. The rating is on a scale from 1 to 10 with 1 being low suitability and 10 being high suitability. Start with the “At a Glance” section to identify species you would like to know more about and then continue on to the other two section lists that hold more information.

The second section list includes a deeper look into the technical characteristics of species including if they are native to the area, their climate adaptability, hardiness zones, form, relative mature size, and site tolerances. It is organized by alphabetical order of the botanical names. The last section is the narrative list that includes notable health issues, cultivars for community use, if they have any seeds or flowers of ornamental value, and other notes. It is organized by alphabetical order of the botanical names. Terms will be defined before viewing these lists for your convenience.

### Limitations

This list was created by compiling species that may be available through Michigan nurseries as well as many reference materials about tree species that may or may not be readily available in Michigan. Not all of these species will be sold at your local nursery and you should tailor your plantings to what is available. You can always inquire about special-ordering species with your local supplier.

Specimen trees, or unique trees usually planted as a landscape highlight, were considered for this guide but mostly limited to observed species around Michigan. Just because a species is not listed here doesn’t mean it should or should not be planted; consult your local tree supplier or experts. We tried to be inclusive and offer as many choices as possible, but some of these trees are rare and not as useful as other species selected.

Many cultivars that were left out of this guide that could provide advantageous value for trees in some community areas. Species such as Japanese maple have thousands of cultivars with varying availability from tree nursery to tree nursery, so the decision was made to limit this list to no more than three per species. Even if some trees listed here don’t have a cultivar named in the listing, there could be one that would benefit you, so refer to your supplier and tree experts.

This list is a snapshot of information using the data and knowledge we currently have. As time progresses, we will learn more about tree species and their effectiveness in Michigan communities. New invasive species, pests, and disease are introduced every year. Urban and community forestry professionals should continue their educations and be aware of these threats and changes in this guide.

**\*Note:** Not all deciduous trees are broadleaf trees. Two of the species on the list, Baldcypress and Dawn Redwood, are deciduous conifers that drop their needles in the fall. Genus names are transitioning for two species. *Cornus florida* is now *Benthamea florida* and *Cornus alternifolia* is now *Swida alternifolia*.

# Michigan Community Tree Species Selection Guide

## Deciduous Species at a Glance

| Common Name                    | Botanical Name                           | MiCoTSS Rating |
|--------------------------------|------------------------------------------|----------------|
| Alder, Smooth/Hazel            | <i>Alnus serrulata</i>                   | 5              |
| Alder, Speckled                | <i>Alnus incana</i> subsp. <i>Rugosa</i> | 6              |
| Amur Maackia                   | <i>Maackia amurensis</i>                 | 5              |
| Bald cypress                   | <i>Taxodium distichum</i>                | 10             |
| Beech, American                | <i>Fagus grandifolia</i>                 | 3              |
| Beech, European                | <i>Fagus sylvatica</i>                   | 2              |
| Birch, Gray                    | <i>Betula populifolia</i>                | 2              |
| Birch, Japanese White          | <i>Betula platyphylla</i>                | 3              |
| Birch, Paper                   | <i>Betula papyrifera</i>                 | 6              |
| Birch, River                   | <i>Betula nigra</i>                      | 9              |
| Birch, Yellow                  | <i>Betula alleghaniensis</i>             | 6              |
| Black Gum/Tupelo               | <i>Nyssa sylvatica</i>                   | 10             |
| Buckeye, Arnold                | <i>Aesculus x arnoldiana</i>             | 6              |
| Buckeye, Bottlebrush           | <i>Aesculus parviflora</i>               | 3              |
| Buckeye, Ohio                  | <i>Aesculus glabra</i>                   | 5              |
| Buckeye, Yellow                | <i>Aesculus flava</i>                    | 3              |
| Butternut                      | <i>Juglans cinerea</i>                   | 2              |
| Catalpa, Northern              | <i>Catalpa speciosa</i>                  | 8              |
| Catalpa, Southern              | <i>Catalpa bignonioides</i>              | 8              |
| Cherry, Black                  | <i>Prunus serotina</i>                   | 3              |
| Cherry, Japanese Flowering     | <i>Prunus serrulata</i>                  | 2              |
| Cherry, Ornamental             | <i>Prunus</i> spp.                       | 2              |
| Cherry, Sargent                | <i>Prunus sargentii</i>                  | 3              |
| Chokecherry                    | <i>Prunus virginiana</i>                 | 3              |
| Crabapple                      | <i>Malus</i> spp.                        | 3              |
| Crabapple, Sargent             | <i>Malus sargentii</i>                   | 3              |
| Dawn Redwood                   | <i>Metasequoia glyptostroboides</i>      | 7              |
| Dogwood, Cornelian cherry      | <i>Cornus mas</i>                        | 4              |
| Dogwood, Flowering             | <i>Cornus florida</i>                    | 6              |
| Dogwood, Kousa                 | <i>Cornus kousa</i>                      | 6              |
| Dogwood, Pagoda/Alternate-Leaf | <i>Cornus alternifolia</i>               | 6              |
| Elm, American                  | <i>Ulmus americana</i>                   | 9              |
| Elm, Hybrids                   | <i>Ulmus</i> x.                          | 8              |
| Franklin Tree                  | <i>Franklinia alatamaha</i>              | 5              |
| Fringetree, Chinese            | <i>Chionanthus retusus</i>               | 2              |
| Fringetree, White              | <i>Chionanthus virginicus</i>            | 8              |

# Michigan Community Tree Species Selection Guide

## Deciduous Species at a Glance

| Common Name              | Botanical Name                                   | MiCoTSS Rating |
|--------------------------|--------------------------------------------------|----------------|
| Ginkgo                   | <i>Ginkgo biloba</i>                             | 9              |
| Hackberry, Common        | <i>Celtis occidentalis</i>                       | 10             |
| Hackberry, Dwarf         | <i>Celtis tenuifolia</i>                         | 9              |
| Hackberry, Southern      | <i>Celtis laevigata</i>                          | 9              |
| Hardy Rubber Tree        | <i>Eucommia ulmoides</i>                         | 6              |
| Hawthorn, Cockspur       | <i>Crataegus crusgalli</i>                       | 6              |
| Hawthorn, Green          | <i>Crataegus viridis</i>                         | 6              |
| Hawthorn, Washington     | <i>Crataegus phaenopyrum</i>                     | 5              |
| Hickory, Bitternut/Swamp | <i>Carya cardiformis</i>                         | 7              |
| Hickory, Mockernut       | <i>Carya tomentosa</i>                           | 5              |
| Hickory, Pignut          | <i>Carya glabra</i>                              | 5              |
| Hickory, Shagbark        | <i>Carya ovata</i>                               | 4              |
| Hickory, Shellbark       | <i>Carya laciniata</i>                           | 5              |
| Honeylocust, Thornless   | <i>Gleditsia triacanthos</i> var. <i>inermis</i> | 8              |
| Hop-Hornbeam, American   | <i>Ostrya virginiana</i>                         | 10             |
| Hornbeam, American       | <i>Carpinus caroliniana</i>                      | 10             |
| Hornbeam, European       | <i>Carpinus betulus</i>                          | 6              |
| Horsechestnut, Common    | <i>Aesculus hippocastanum</i>                    | 3              |
| Horsechestnut, Red       | <i>Aesculus x carnea</i>                         | 5              |
| Hydrangea, Panicle       | <i>Hydrangea paniculata</i>                      | 4              |
| Kentucky Coffeetree      | <i>Gymnocladus dioica</i>                        | 10             |
| Laburnum, Common         | <i>Laburnum anagyroides</i>                      | 2              |
| Linden, American         | <i>Tilia americana</i>                           | 6              |
| Linden, Hybrids          | <i>Tilia</i> x.                                  | 6              |
| Linden, Littleleaf       | <i>Tilia cordata</i>                             | 6              |
| Linden, Silver           | <i>Tilia tomentosa</i>                           | 6              |
| London Planetree         | <i>Platanus x acerifolia</i>                     | 7              |
| Magnolia, Cucumbertree   | <i>Magnolia acuminata</i>                        | 5              |
| Magnolia, Loebner        | <i>Magnolia x loebneri</i>                       | 4              |
| Magnolia, Saucer         | <i>Magnolia x soulangiana</i>                    | 4              |
| Magnolia, Star           | <i>Magnolia stellata</i>                         | 4              |
| Magnolia, Sweetbay       | <i>Magnolia virginiana</i>                       | 5              |

# Michigan Community Tree Species Selection Guide

## Deciduous Species at a Glance

| Common Name              | Botanical Name                                    | MiCoTSS Rating |
|--------------------------|---------------------------------------------------|----------------|
| Maple, Black             | <i>Acer nigrum</i>                                | 3              |
| Maple, Freeman           | <i>Acer x freemanii</i>                           | 3              |
| Maple, Japanese          | <i>Acer palmatum</i>                              | 1              |
| Maple, Miyabe            | <i>Acer miyabei</i>                               | 3              |
| Maple, Paperbark         | <i>Acer griseum</i>                               | 3              |
| Maple, Red               | <i>Acer rubrum</i>                                | 3              |
| Maple, Silver            | <i>Acer saccharinum</i>                           | 1              |
| Maple, Striped           | <i>Acer pensylvanicum</i>                         | 3              |
| Maple, Sugar             | <i>Acer saccharum</i>                             | 3              |
| Oak, Black               | <i>Quercus velutina</i>                           | 5              |
| Oak, Bur                 | <i>Quercus macrocarpa</i>                         | 10             |
| Oak, Chestnut            | <i>Quercus montana</i>                            | 7              |
| Oak, Chinkapin           | <i>Quercus muehlenbergii</i>                      | 8              |
| Oak, English             | <i>Quercus robur</i>                              | 5              |
| Oak, Hybrids             | <i>Quercus x.</i>                                 | 5              |
| Oak, Northern Pin        | <i>Quercus ellipsoidalis</i>                      | 4              |
| Oak, Northern Red        | <i>Quercus rubra</i>                              | 6              |
| Oak, Overcup             | <i>Quercus lyrata</i>                             | 7              |
| Oak, Pin                 | <i>Quercus palustris</i>                          | 6              |
| Oak, Scarlet             | <i>Quercus coccinea</i>                           | 6              |
| Oak, Shingle             | <i>Quercus imbricaria</i>                         | 7              |
| Oak, Shumard/Swamp Red   | <i>Quercus shumardii</i>                          | 5              |
| Oak, Swamp Chestnut      | <i>Quercus michauxii</i>                          | 7              |
| Oak, Swamp White         | <i>Quercus bicolor</i>                            | 10             |
| Oak, White               | <i>Quercus alba</i>                               | 6              |
| Oak, Willow              | <i>Quercus phellos</i>                            | 5              |
| Osage Orange             | <i>Maclura pomifera</i>                           | 5              |
| Parrotia, Persian        | <i>Parrotia persica</i>                           | 6              |
| Pawpaw                   | <i>Asimina triloba</i>                            | 4              |
| Pecan, Hardy             | <i>Carya illinoensis</i>                          | 4              |
| Persimmon, Common        | <i>Diospyros virginiana</i>                       | 9              |
| Plum, American           | <i>Prunus americana</i>                           | 2              |
| Plum, Canadian           | <i>Prunus nigra</i>                               | 2              |
| Pond cypress             | <i>Taxodium distichum</i> var. <i>imbricarium</i> | 10             |
| Poplars/Aspen/Cottonwood | <i>Populus</i> spp.                               | 1              |
| Redbud, Eastern          | <i>Celtis canadensis</i>                          | 8              |
| Sassafras                | <i>Sassafras albidum</i>                          | 5              |

# Michigan Community Tree Species Selection Guide

## Deciduous Species at a Glance

| Common Name                   | Botanical Name            | MiCoTSS Rating |
|-------------------------------|---------------------------|----------------|
| Serviceberry, Allegheny       | Amelanchier laevis        | 8              |
| Serviceberry, Apple           | Amelanchier x grandiflora | 7              |
| Serviceberry, Downy           | Amelanchier arborea       | 8              |
| Serviceberry, Saskatoon       | Amelanchier alnifolia     | 7              |
| Serviceberry, Shadblow/Canada | Amelanchier canadensis    | 8              |
| Silverbell, Carolina/Common   | Halesia carolina          | 7              |
| Smoketree, American           | Cotinus obovatus          | 9              |
| Snowbell, Fragrant            | Styrax obassia            | 3              |
| Snowbell, Japanese            | Styrax japonicus          | 3              |
| Sourwood                      | Oxydendrum arboreum       | 5              |
| Stewartia, Korean/Japanese    | Stewartia pseudocamellia  | 2              |
| Sweetgum                      | Liquidambar styraciflua   | 6              |
| Sycamore                      | Platanus occidentalis     | 7              |
| Tuliptree                     | Liriodendron tulipifera   | 6              |
| Turkish Filbert               | Corylus colurna           | 5              |
| Wafer-Ash                     | Ptelea trifoliata         | 7              |
| Walnut, Black                 | Juglans nigra             | 2              |
| Willow, Black                 | Salix nigra               | 2              |
| Witch hazel, Common           | Hamamelis virginiana      | 6              |
| Witch hazel, Vernal           | Hamamelis vernalis        | 5              |
| Yellowwood                    | Cladrastis kentuckea      | 7              |
| Zelkova, Japanese             | Zelkova serrata           | 6              |

# Michigan Community Tree Species Selection Guide

## Deciduous Species List Definitions

### MiCoTSS rating

A rating unique to this guide that takes into account weighted factors that express the suitability of species in Michigan's managed landscapes. The rating is on a scale from 1 to 10 with 1 being low suitability and 10 being high suitability. **Use this to inform your decision, not to make the decision for you.**

### Native (Michigan) and Native (United States)

Denotes if a species was present within the State of Michigan and/or United States prior to European colonialization.

### Climate adaptability

A five-tier scale from Very Low to Very High rating how well a species is predicted to adapt to climate change and/or expand its planting range. Disclaimer: The data used for this category is tailored to the metropolitan Detroit area and becomes unreliable when applied elsewhere.

### Hardiness zones

The general hardiness zone range that the species will tolerate. It could be different based on the cultivar and source location of the trees.

### Mature height and spread (in feet)

The average height and spread of the tree canopy at maturity.

### Form

The general shape or structure of the species. Categorized into: Upright Oval, Round, Spreading, Pyramidal, Columnar, Vase, and Various.

### Planting area

Planting space has been generalized into small, medium, and large categories that include minimum standards for planting widths for rights-of-way, square footage minimums, and relative tree size classes for those area sizes. Please refer to the table below for more information.

| Planting Area | Minimum Planting Width (Feet) | Min. Total Area (Square Feet) | Mature Tree Size (Height in Feet) |
|---------------|-------------------------------|-------------------------------|-----------------------------------|
| Small (S)     | 5                             | 50-100                        | <30                               |
| Medium (M)    | 6                             | 100-200                       | 30-50                             |
| Large (L)     | 7                             | >200                          | >50                               |

### Site tolerances

Common stressors that species may or may not tolerate. These might change depending on cultivar.

### Denoted as Intolerant (I), Neutral (N), and Tolerant (T) within the species list.

- **Drought:** Tolerance of a prolonged absence of available moisture for the tree
- **Poor drainage:** Tolerance of site soil that lacks pore space, causing slow infiltration of water
- **Alkaline soil:** Tolerance of soil that has a pH higher than 7
- **Salt:** Tolerance of salt, usually from road de-icing
- **Air pollution:** Tolerance of poor air quality and emissions of pollutants, usually from vehicles
- **Shade:** Tolerance of shade from surroundings

# Michigan Community Tree Species Selection Guide

| Name                                                  | MICoTSS Rating | Native (MI) | Native (US) | Climate Adaptability | Hardiness Zones | Form         | Mature Height (Ft.) | Mature Spread | Planting Area | Drought | Poor Drainage | Alkaline Soil | Salt | Air Pollution | Shade |
|-------------------------------------------------------|----------------|-------------|-------------|----------------------|-----------------|--------------|---------------------|---------------|---------------|---------|---------------|---------------|------|---------------|-------|
| <b>Acer griseum</b><br>Paperbark Maple                | 3              | No          | No          | Very Low             | 5-9             | Upright Oval | 25                  | 25            | S             | N       | I             | N             | N    | N             | T     |
| <b>Acer miyabei</b><br>Miyabe Maple                   | 3              | No          | No          | High                 | 4-8             | Upright Oval | 40                  | 40            | M             | N       | N             | T             | N    | N             | T     |
| <b>Acer nigrum</b><br>Black Maple                     | 3              | Yes         | Yes         | Moderate             | 4-8             | Upright Oval | 75                  | 50            | L             | I       | T             | N             | I    | T             | T     |
| <b>Acer palmatum</b><br>Japanese Maple                | 1              | No          | No          | Moderate             | 5-8             | Various      | 20                  | 15            | S             | I       | I             | N             | I    | N             | T     |
| <b>Acer pensylvanicum</b><br>Striped Maple            | 3              | Yes         | Yes         | Moderate             | 3-7             | Vase         | 25                  | 20            | S             | I       | T             | I             | I    | N             | T     |
| <b>Acer rubrum</b><br>Red Maple                       | 3              | Yes         | Yes         | Moderate             | 3-9             | Upright Oval | 70                  | 50            | L             | I       | T             | I             | I    | T             | T     |
| <b>Acer saccharinum</b><br>Silver Maple               | 1              | Yes         | Yes         | Low                  | 3-9             | Spreading    | 80                  | 60            | L             | I       | T             | I             | I    | N             | T     |
| <b>Acer saccharum</b><br>Sugar Maple                  | 3              | Yes         | Yes         | Moderate             | 4-8             | Upright Oval | 75                  | 50            | L             | I       | T             | N             | I    | T             | T     |
| <b>Acer x freemanii</b><br>Freeman Maple              | 3              | No          | No          | Moderate             | 3-7             | Upright Oval | 70                  | 45            | M             | N       | T             | I             | N    | T             | T     |
| <b>Aesculus flava</b><br>Yellow Buckeye               | 3              | No          | Yes         | Moderate             | 4-8             | Upright Oval | 70                  | 35            | L             | N       | N             | N             | N    | N             | N     |
| <b>Aesculus glabra</b><br>Ohio Buckeye                | 5              | Yes         | Yes         | Moderate             | 4-8             | Round        | 45                  | 40            | L             | N       | T             | I             | T    | I             | N     |
| <b>Aesculus hippocastanum</b><br>Common Horsechestnut | 3              | No          | Yes         | Moderate             | 3-8             | Upright Oval | 75                  | 65            | L             | N       | N             | N             | N    | T             | I     |
| <b>Aesculus parviflora</b><br>Bottlebrush Buckeye     | 3              | No          | Yes         | Moderate             | 4-8             | Round        | 12                  | 15            | S             | I       | N             | N             | N    | T             | T     |
| <b>Aesculus x arnoldiana</b><br>Arnold Buckeye        | 6              | No          | No          | Moderate             | 4-8             | Round        | 25                  | 25            | M             | I       | N             | T             | T    | T             | T     |
| <b>Aesculus x carnea</b><br>Red Horsechestnut         | 5              | No          | No          | Moderate             | 5-8             | Pyramidal    | 40                  | 40            | M             | N       | N             | N             | N    | T             | N     |
| <b>Alnus incana subsp. Rugosa</b><br>Speckled Alder   | 6              | Yes         | Yes         | Moderate             | 2-6             | Vase         | 25                  | 25            | S             | I       | T             | N             | N    | N             | T     |
| <b>Alnus serrulata</b><br>Smooth Alder/ Hazel Alder   | 5              | No          | Yes         | Unknown              | 4-9             | Round        | 20                  | 15            | S             | I       | T             | T             | N    | N             | I     |

# Michigan Community Tree Species Selection Guide

| Name                                                                           | MIcOTSS Rating | Native (MI) | Native (US) | Climate Adaptability | Hardiness Zones | Form         | Mature Height (Ft.) | Mature Spread (Ft.) | Planting Area | Drought | Poor Drainage | Alkaline Soil | Salt | Air Pollution | Shade |
|--------------------------------------------------------------------------------|----------------|-------------|-------------|----------------------|-----------------|--------------|---------------------|---------------------|---------------|---------|---------------|---------------|------|---------------|-------|
| <b>Amelanchier alnifolia</b><br>Saskatoon Serviceberry                         | 7              | No          | Yes         | High                 | 4-5             | Round        | 8                   | 8                   | S             | N       | T             | N             | T    | I             | N     |
| <b>Amelanchier arborea</b><br>Downy Serviceberry/<br>Juneberry                 | 8              | Yes         | Yes         | Very High            | 4-9             | Round        | 25                  | 25                  | S             | N       | N             | N             | N    | I             | N     |
| <b>Amelanchier canadensis</b><br>Shadblow Serviceberry/<br>Canada Serviceberry | 8              | Yes         | Yes         | High                 | 3-7             | Round        | 25                  | 25                  | S             | N       | T             | N             | N    | I             | N     |
| <b>Amelanchier laevis</b><br>Allegheny Serviceberry                            | 8              | No          | Yes         | Very High            | 4-8             | Round        | 25                  | 25                  | S             | N       | N             | T             | N    | I             | N     |
| <b>Amelanchier x grandiflora</b><br>Apple Serviceberry                         | 7              | No          | No          | Moderate             | 4-9             | Round        | 25                  | 25                  | S             | T       | N             | T             | N    | I             | T     |
| <b>Asimina triloba</b><br>Pawpaw/ Custard Apple                                | 4              | Yes         | Yes         | Moderate             | 5-9             | Pyramidal    | 30                  | 30                  | M             | N       | N             | I             | N    | N             | N     |
| <b>Betula alleghaniensis</b><br>Yellow Birch                                   | 6              | Yes         | Yes         | High                 | 3-7             | Round        | 65                  | 60                  | M             | I       | T             | N             | N    | N             | N     |
| <b>Betula nigra</b><br>River Birch                                             | 9              | Yes         | Yes         | High                 | 4-9             | Upright Oval | 40                  | 30                  | S             | N       | T             | I             | N    | T             | N     |
| <b>Betula papyrifera</b><br>Paper Birch                                        | 6              | Yes         | Yes         | Moderate             | 2-7             | Upright Oval | 55                  | 35                  | M             | I       | N             | N             | N    | N             | N     |
| <b>Betula platyphylla</b><br>Japanese White Birch                              | 3              | No          | No          | Unknown              | 3-7             | Pyramidal    | 40                  | 25                  | S             | I       | N             | N             | N    | N             | N     |
| <b>Betula populifolia</b><br>Gray Birch                                        | 2              | No          | Yes         | Very Low             | 3-7             | Pyramidal    | 40                  | 20                  | M             | I       | T             | N             | N    | N             | I     |
| <b>Carpinus betulus</b><br>European Hornbeam                                   | 6              | No          | No          | Moderate             | 4-8             | Various      | 40                  | 30                  | S             | N       | N             | T             | I    | T             | N     |
| <b>Carpinus caroliniana</b><br>American Hornbeam/<br>Musclewood/ Blue Beech    | 10             | Yes         | Yes         | Very High            | 3-9             | Various      | 30                  | 30                  | S             | N       | N             | N             | I    | T             | T     |

# Michigan Community Tree Species Selection Guide

| Name                                                                          | MIcOTSS Rating | Native (MI) | Native (US) | Climate Adaptability | Hardiness Zones | Form         | Mature Height (Ft.) | Mature Spread (Ft.) | Planting Area | Drought | Poor Drainage | Alkaline Soil | Salt | Air Pollution | Shade |
|-------------------------------------------------------------------------------|----------------|-------------|-------------|----------------------|-----------------|--------------|---------------------|---------------------|---------------|---------|---------------|---------------|------|---------------|-------|
| <b>Carya cardiformis</b><br>Bitternut Hickory/ Swamp Hickory                  | 7              | Yes         | Yes         | High                 | 4-9             | Upright Oval | 70                  | 45                  | L             | N       | N             | N             | I    | T             | T     |
| <b>Carya glabra</b><br>Pignut Hickory                                         | 5              | Yes         | Yes         | Moderate             | 4-9             | Upright Oval | 65                  | 40                  | L             | T       | N             | N             | I    | T             | T     |
| <b>Carya illinoensis</b><br>Hardy Pecan                                       | 4              | No          | Yes         | Unknown              | 5-9             | Upright Oval | 75                  | 40                  | L             | T       | I             | T             | N    | N             | N     |
| <b>Carya laciniosa</b><br>Shellbark Hickory                                   | 5              | Yes         | Yes         | Moderate             | 4-9             | Upright Oval | 75                  | 55                  | L             | I       | N             | I             | I    | T             | T     |
| <b>Carya ovata</b><br>Shagbark Hickory                                        | 4              | Yes         | Yes         | Very Low             | 4-9             | Upright Oval | 70                  | 45                  | L             | T       | N             | N             | I    | T             | T     |
| <b>Carya tomentosa</b><br>Mockernut Hickory                                   | 5              | No          | Yes         | High                 | 4-9             | Upright Oval | 50                  | 25                  | L             | T       | I             | N             | I    | T             | N     |
| <b>Catalpa bignonioides</b><br>Southern Catalpa                               | 8              | No          | Yes         | Moderate             | 5-9             | Round        | 50                  | 45                  | L             | T       | T             | T             | N    | T             | N     |
| <b>Catalpa speciosa</b><br>Northern Catalpa                                   | 8              | No          | Yes         | Moderate             | 4-8             | Upright Oval | 60                  | 40                  | L             | T       | T             | T             | N    | T             | N     |
| <b>Celtis laevigata</b><br>Sugarberry/ Sugar Hackberry/<br>Southern Hackberry | 9              | No          | Yes         | High                 | 6-9             | Round        | 50                  | 45                  | M             | T       | N             | T             | T    | T             | T     |
| <b>Celtis occidentalis</b><br>Common Hackberry                                | 10             | Yes         | Yes         | Very High            | 3-9             | Round        | 50                  | 45                  | M             | T       | N             | T             | T    | T             | T     |
| <b>Celtis tenuifolia</b><br>Dwarf Hackberry                                   | 9              | No          | Yes         | High                 | 5-9             | Upright Oval | 30                  | 20                  | S             | T       | N             | T             | T    | T             | I     |
| <b>Cercidiphyllum japonicum</b><br>Katsura Tree                               | 4              | No          | No          | Low                  | 4-8             | Pyramid      | 50                  | 35                  | M             | I       | N             | T             | N    | N             | T     |
| <b>Cercis canadensis</b><br>Eastern Redbud                                    | 8              | Yes         | Yes         | High                 | 4-9             | Spreading    | 30                  | 35                  | S             | N       | N             | T             | N    | I             | T     |
| <b>Chionanthus retusus</b><br>Chinese Fringetree                              | 2              | No          | No          | Unknown              | 5-9             | Spreading    | 20                  | 20                  | S             | I       | N             | N             | N    | N             | N     |
| <b>Chionanthus virginicus</b><br>White Fringetree                             | 8              | No          | Yes         | Very High            | 3-9             | Spreading    | 20                  | 20                  | S             | N       | N             | T             | N    | N             | N     |

# Michigan Community Tree Species Selection Guide

| Name                                                                       | MiCoTSS Rating | Native (MI) | Native (US) | Climate Adaptability | Hardiness Zones | Form            | Mature Height (Ft.) | Mature Spread (Ft.) | Planting Area | Drought | Poor Drainage | Alkaline Soil | Salt | Air Pollution | Shade |
|----------------------------------------------------------------------------|----------------|-------------|-------------|----------------------|-----------------|-----------------|---------------------|---------------------|---------------|---------|---------------|---------------|------|---------------|-------|
| <b>Cladrastis kentuckea</b><br>Yellowwood                                  | 7              | No          | Yes         | High                 | 4-8             | Round           | 45                  | 45                  | M             | N       | I             | T             | N    | T             | I     |
| <b>Cornus alternifolia</b><br>Pagoda Dogwood/<br>Alternate-Leaf<br>Dogwood | 6              | Yes         | Yes         | Moderate             | 3-7             | Round           | 20                  | 20                  | S             | I       | N             | N             | N    | N             | T     |
| <b>Cornus florida</b><br>Flowering Dogwood                                 | 6              | Yes         | Yes         | High                 | 5-9             | Round           | 30                  | 30                  | S             | I       | I             | N             | N    | N             | T     |
| <b>Cornus kousa</b><br>Kousa Dogwood                                       | 6              | No          | No          | High                 | 5-8             | Round           | 30                  | 30                  | S             | N       | I             | T             | N    | T             | N     |
| <b>Cornus mas</b><br>Corneliancherry<br>Dogwood                            | 4              | No          | No          | Moderate             | 5-8             | Round           | 20                  | 20                  | S             | N       | N             | T             | N    | N             | N     |
| <b>Corylus columna</b><br>Turkish Filbert/ Turkish<br>Hazelnut             | 5              | No          | No          | Moderate             | 5-7             | Pyramidal       | 50                  | 35                  | L             | T       | N             | T             | I    | T             | N     |
| <b>Cotinus obovatus</b><br>American Smoketree/<br>Chittamwood              | 9              | No          | Yes         | Very High            | 5-8             | Upright<br>Oval | 30                  | 25                  | S             | N       | N             | T             | N    | T             | N     |
| <b>Crataegus crusgalli</b><br>Cockspur Hawthorn                            | 6              | No          | Yes         | Moderate             | 4-7             | Round           | 30                  | 30                  | S             | T       | N             | T             | N    | T             | I     |
| <b>Crataegus<br/>phaenopyrum</b><br>Washington Hawthorn                    | 5              | No          | Yes         | Moderate             | 4-8             | Round           | 30                  | 25                  | S             | T       | N             | T             | I    | T             | I     |
| <b>Crataegus viridis</b><br>Green Hawthorn                                 | 6              | No          | Yes         | Moderate             | 4-7             | Spreading       | 30                  | 30                  | S             | T       | N             | T             | N    | T             | I     |
| <b>Diospyros virginiana</b><br>Common Persimmon                            | 9              | No          | Yes         | Very High            | 4-9             | Upright<br>Oval | 50                  | 35                  | M             | T       | N             | T             | T    | N             | N     |
| <b>Eucommia ulmoides</b><br>Hardy Rubber Tree                              | 6              | No          | No          | High                 | 4-7             | Upright<br>Oval | 60                  | 50                  | L             | T       | I             | T             | T    | T             | N     |
| <b>Fagus grandifolia</b><br>American Beech                                 | 3              | Yes         | Yes         | High                 | 3-8             | Round           | 75                  | 75                  | L             | N       | I             | N             | I    | T             | N     |
| <b>Fagus sylvatica</b><br>European Beech                                   | 2              | No          | No          | Moderate             | 4-7             | Round           | 75                  | 60                  | L             | N       | I             | N             | I    | T             | N     |

# Michigan Community Tree Species Selection Guide

| Name                                                                 | MIcOTSS Rating | Native (MI) | Native (US) | Climate Adaptability | Hardiness Zones | Form         | Mature Height (Ft.) | Mature Spread (Ft.) | Planting Area | Drought | Poor Drainage | Alkaline Soil | Salt | Air Pollution | Shade |
|----------------------------------------------------------------------|----------------|-------------|-------------|----------------------|-----------------|--------------|---------------------|---------------------|---------------|---------|---------------|---------------|------|---------------|-------|
| <b>Franklinia alatamaha</b><br>Franklin Tree                         | 5              | No          | Yes         | Unknown              | 5-8             | Round        | 20                  | 15                  | S             | I       | T             | T             | N    | N             | N     |
| <b>Fagus sylvatica</b><br>European Beech                             | 2              | No          | No          | Moderate             | 4-7             | Round        | 75                  | 60                  | L             | N       | I             | N             | I    | T             | N     |
| <b>Franklinia alatamaha</b><br>Franklin Tree                         | 5              | No          | Yes         | Unknown              | 5-8             | Round        | 20                  | 15                  | S             | I       | T             | T             | N    | N             | N     |
| <b>Ginkgo biloba</b><br>Ginkgo/ Maidenhair Tree                      | 9              | No          | No          | Very High            | 3-8             | Columnar     | 50                  | 40                  | M             | T       | N             | T             | N    | T             | N     |
| <b>Gleditsia triacanthos var. inermis</b><br>Thornless Honeylocust   | 8              | Yes         | Yes         | High                 | 3-8             | Vase         | 50                  | 40                  | M             | T       | N             | T             | T    | I             | N     |
| <b>Gymnocladus dioicus</b><br>Kentucky Coffeetree                    | 10             | Yes         | Yes         | Very High            | 3-8             | Upright Oval | 70                  | 50                  | M             | T       | T             | T             | T    | T             | N     |
| <b>Halesia carolina</b><br>Carolina Silverbell/<br>Common Silverbell | 7              | No          | Yes         | Moderate             | 5-8             | Vase         | 30                  | 30                  | M             | I       | N             | I             | N    | N             | T     |
| <b>Hamamelis vernalis</b><br>Vernal Witchhazel                       | 5              | No          | Yes         | Moderate             | 4-8             | Vase         | 10                  | 10                  | S             | I       | N             | T             | N    | N             | N     |
| <b>Hamamelis virginiana</b><br>Common Witchhazel                     | 6              | Yes         | Yes         | Round                | 3-8             | Vase         | 25                  | 25                  | S             | N       | T             | N             | N    | N             | T     |
| <b>Hydrangea paniculata</b><br>Panicle Hydrangea                     | 4              | No          | Yes         | Unknown              | 4-8             | Round        | 20                  | 20                  | S             | N       | N             | T             | I    | N             | T     |
| <b>Juglans cinerea</b><br>Butternut/ White Walnut                    | 2              | Yes         | Yes         | Low                  | 3-7             | Round        | 60                  | 45                  | L             | I       | I             | T             | I    | T             | I     |
| <b>Juglans nigra</b><br>Black Walnut                                 | 2              | Yes         | Yes         | Low                  | 4-9             | Round        | 75                  | 70                  | L             | I       | I             | T             | I    | T             | I     |
| <b>Laburnum anagyroides</b><br>Common Laburnum/<br>Golden Chain Tree | 2              | No          | No          | Unknown              | 5-7             | Vase         | 25                  | 25                  | S             | I       | I             | N             | N    | N             | T     |
| <b>Liquidambar styraciflua</b><br>Sweetgum                           | 6              | No          | Yes         | Low                  | 5-9             | Round        | 55                  | 45                  | M             | N       | T             | N             | N    | I             | N     |

# Michigan Community Tree Species Selection Guide

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|--------------------------------------------------------------------------------|----------------|-------------|-------------|----------------------|-----------------|--------------|---------------------|---------------------|---------------|---------|---------------|---------------|------|---------------|-------|
| <b>Liriodendron tulipifera</b><br>Tuliptree/ Tulip<br>Poplar/ Yellow<br>Poplar | 6              | Yes         | Yes         | Low                  | 5-9             | Upright Oval | 80                  | 40                  | L             | N       | N             | N             | I    | I             | I     |
| <b>Maackia amurensis</b><br>Amur Maackia                                       | 5              | No          | No          | High                 | 3-7             | Vase         | 30                  | 35                  | S             | N       | N             | T             | N    | T             | I     |
| <b>Maclura pomifera</b><br>Osage Orange                                        | 5              | No          | Yes         | High                 | 5-9             | Round        | 45                  | 40                  | M             | T       | N             | T             | T    | T             | I     |
| <b>Magnolia acuminata</b><br>Cucumbertree<br>Magnolia                          | 5              | No          | Yes         | High                 | 4-8             | Round        | 80                  | 60                  | L             | I       | N             | N             | I    | I             | N     |
| <b>Magnolia stellata</b><br>Star Magnolia                                      | 4              | No          | No          | High                 | 5-8             | Pyramid      | 20                  | 15                  | M             | I       | N             | N             | I    | T             | I     |
| <b>Magnolia virginiana</b><br>Sweetbay Magnolia                                | 5              | No          | Yes         | Very High            | 5-10            | Columnar     | 50                  | 25                  | L             | I       | N             | N             | I    | N             | I     |
| <b>Magnolia x loebneri</b><br>Loebner Magnolia                                 | 4              | No          | No          | High                 | 5-8             | Upright Oval | 25                  | 25                  | M             | I       | N             | T             | I    | I             | N     |
| <b>Magnolia x soulangiana</b><br>Saucer Magnolia                               | 4              | No          | No          | Very High            | 5-9             | Round        | 30                  | 30                  | M             | I       | N             | N             | I    | N             | I     |
| <b>Malus sargentii</b><br>Sargent Crabapple                                    | 3              | No          | No          | Moderate             | 4-7             | Round        | 20                  | 15                  | S             | T       | N             | T             | I    | I             | I     |
| <b>Malus spp.</b><br>Crabapple                                                 | 3              | No          | No          | Moderate             | 4-7             | Round        | 20                  | 25                  | S             | T       | I             | N             | T    | I             | N     |
| <b>Metasequoia glyptostroboides</b><br>Dawn Redwood                            | 7              | No          | No          | High                 | 5-8             | Pyramid      | 80                  | 35                  | L             | N       | T             | N             | I    | T             | I     |

# Michigan Community Tree Species Selection Guide

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# Michigan Community Tree Species Selection Guide

| Name                                                   | MICoTSS Rating | Native (MI) | Native (US) | Climate Adaptability | Hardiness Zones | Form         | Mature Height (Ft.) | Mature Spread (Ft.) | Planting Area | Drought | Poor Drainage | Alkaline Soil | Salt | Air Pollution | Shade |
|--------------------------------------------------------|----------------|-------------|-------------|----------------------|-----------------|--------------|---------------------|---------------------|---------------|---------|---------------|---------------|------|---------------|-------|
| <b>Ptelea trifoliata</b><br>Wafer-Ash/ Common Hop Tree | 7              | Yes         | Yes         | High                 | 4-9             | Round        | 25                  | 15                  | S             | T       | N             | T             | T    | N             | T     |
| <b>Quercus alba</b><br>White Oak                       | 6              | Yes         | Yes         | Moderate             | 3-9             | Round        | 100                 | 80                  | L             | N       | T             | N             | N    | N             | N     |
| <b>Quercus bicolor</b><br>Swamp White Oak              | 10             | Yes         | Yes         | Very High            | 4-8             | Upright Oval | 70                  | 60                  | L             | T       | T             | T             | N    | N             | I     |
| <b>Quercus coccinea</b><br>Scarlet Oak                 | 6              | Yes         | Yes         | High                 | 5-8             | Round        | 70                  | 55                  | L             | N       | T             | N             | I    | I             | I     |
| <b>Quercus ellipsoidalis</b><br>Northern Pin Oak       | 4              | Yes         | Yes         | Low                  | 4-8             | Upright Oval | 75                  | 45                  | L             | N       | T             | I             | I    | I             | I     |
| <b>Quercus imbricaria</b><br>Shingle Oak               | 7              | No          | Yes         | High                 | 5-8             | Upright Oval | 60                  | 60                  | L             | N       | N             | N             | T    | N             | N     |
| <b>Quercus lyrata</b><br>Overcup Oak                   | 7              | No          | Yes         | High                 | 5-9             | Round        | 60                  | 60                  | L             | T       | N             | N             | N    | N             | I     |
| <b>Quercus macrocarpa</b><br>Bur Oak                   | 10             | Yes         | Yes         | Very High            | 3-8             | Upright Oval | 90                  | 80                  | L             | T       | T             | T             | N    | N             | I     |
| <b>Quercus michauxii</b><br>Swamp Chestnut Oak         | 7              | No          | Yes         | High                 | 5-9             | Round        | 80                  | 60                  | L             | T       | T             | T             | N    | N             | I     |
| <b>Quercus montana</b><br>Chestnut Oak                 | 7              | No          | Yes         | High                 | 4-8             | Round        | 70                  | 70                  | L             | T       | N             | T             | N    | N             | I     |
| <b>Quercus muehlenbergii</b><br>Chinkapin Oak          | 8              | Yes         | Yes         | High                 | 3-9             | Round        | 60                  | 60                  | L             | T       | N             | T             | N    | N             | I     |
| <b>Quercus palustris</b><br>Pin Oak                    | 6              | Yes         | Yes         | High                 | 4-8             | Upright Oval | 75                  | 40                  | L             | N       | N             | I             | I    | I             | I     |
| <b>Quercus phellos</b><br>Willow Oak                   | 5              | No          | Yes         | Unknown              | 5-9             | Upright Oval | 75                  | 50                  | L             | N       | T             | T             | N    | T             | I     |
| <b>Quercus robur</b><br>English Oak                    | 5              | No          | No          | Moderate             | 5-8             | Upright Oval | 60                  | 50                  | L             | T       | N             | T             | N    | T             | I     |
| <b>Quercus rubra</b><br>Northern Red Oak               | 6              | Yes         | Yes         | High                 | 3-9             | Upright Oval | 80                  | 60                  | L             | T       | I             | N             | T    | T             | I     |
| <b>Quercus shumardii</b><br>Shumard Oak/ Swamp Red Oak | 5              | No          | Yes         | High                 | 5-9             | Round        | 80                  | 50                  | L             | T       | N             | N             | N    | N             | I     |

# Michigan Community Tree Species Selection Guide

| Name                                                                       | MI CoTSS Rating | Native (MI) | Native (US) | Climate Adaptability | Hardiness Zones | Form         | Mature Height (Ft.) | Mature Spread (Ft.) | Planting Area | Drought | Poor Drainage | Alkaline Soil | Salt | Air Pollution | Shade |
|----------------------------------------------------------------------------|-----------------|-------------|-------------|----------------------|-----------------|--------------|---------------------|---------------------|---------------|---------|---------------|---------------|------|---------------|-------|
| <b>Quercus velutina</b><br>Black Oak                                       | 5               | Yes         | Yes         | Low                  | 3-9             | Upright Oval | 70                  | 50                  | L             | N       | N             | N             | N    | N             | I     |
| <b>Quercus x.</b><br>Hybrid Oaks                                           | 5               | No          | No          | Unknown              | 4-8             | Columnar     | 30                  | 20                  | M             | T       | T             | T             | N    | T             | I     |
| <b>Salix nigra</b><br>Black Willow                                         | 2               | Yes         | Yes         | Low                  | 4-9             | Vase         | 60                  | 60                  | L             | I       | T             | N             | N    | I             | I     |
| <b>Sassafras albidum</b><br>Sassafras                                      | 5               | Yes         | Yes         | Moderate             | 4-8             | Columnar     | 50                  | 30                  | L             | N       | N             | N             | I    | N             | N     |
| <b>Stewartia pseudocamellia</b><br>Korean Stewartia/<br>Japanese Stewartia | 2               | No          | No          | Unknown              | 5-8             | Pyramidal    | 40                  | 30                  | M             | I       | N             | N             | N    | N             | N     |
| <b>Styrax japonicus</b><br>Japanese Snowbell                               | 3               | No          | No          | Unknown              | 5-9             | Vase         | 30                  | 30                  | M             | I       | N             | N             | N    | N             | N     |
| <b>Styrax obassia</b><br>Fragrant Snowbell                                 | 3               | No          | No          | Unknown              | 5-8             | Vase         | 30                  | 25                  | S             | I       | N             | N             | N    | N             | N     |
| <b>Taxodium distichum</b><br>Baldcypress                                   | 10              | No          | Yes         | Very High            | 5-10            | Pyramidal    | 70                  | 30                  | L             | T       | T             | N             | N    | T             | T     |
| <b>Taxodium distichum var. imbricarium</b><br>Pondcypress                  | 10              | No          | Yes         | Very High            | 5-9             | Pyramidal    | 60                  | 20                  | L             | T       | T             | N             | N    | T             | T     |
| <b>Tilia americana</b><br>American Linden/<br>Basswood                     | 6               | Yes         | Yes         | Moderate             | 5-8             | Round        | 80                  | 50                  | L             | N       | N             | T             | I    | I             | T     |
| <b>Tilia cordata</b><br>Littleleaf Linden                                  | 6               | No          | No          | High                 | 4-7             | Round        | 60                  | 40                  | L             | N       | N             | T             | I    | T             | N     |
| <b>Tilia tomentosa</b><br>Silver Linden                                    | 6               | No          | No          | High                 | 4-8             | Pyramidal    | 70                  | 55                  | L             | N       | N             | T             | N    | T             | N     |
| <b>Tilia x.</b><br>Hybrid Lindens                                          | 6               | No          | No          | Unknown              | 4-8             | Pyramidal    | 70                  | 40                  | L             | N       | N             | T             | I    | T             | N     |
| <b>Ulmus americana</b><br>American Elm                                     | 9               | Yes         | Yes         | High                 | 3-9             | Vase         | 100                 | 80                  | L             | T       | T             | T             | N    | T             | N     |
| <b>Ulmus x.</b><br>Hybrid Elms                                             | 8               | No          | No          | Unknown              | 4-7             | Vase         | 70                  | 60                  | L             | T       | T             | T             | N    | T             | N     |
| <b>Zelkova serrata</b><br>Japanese Zelkova                                 | 6               | No          | No          | Very High            | 5-9             | Vase         | 40                  | 30                  | M             | T       | N             | N             | N    | I             | I     |

# Michigan Community Tree Species Selection Guide

## Deciduous Species Narrative List Categories

### Notable cultivars

A category that lists up to three cultivars per species that display some advantageous form, resistance, or tolerance for urban environments. Consult with your local nursery or supplier about what cultivars are available and their benefits. There might be a cultivar available even if there is “None” in the category for a species. New varieties of species are being developed, tested, and sold that might be more advantageous in tolerances, resistances, or form for your community.

### Health concerns

The health concerns listed within this guide are those that commonly occur in Michigan or present a significant threat to the tree. Even if labeled “None Notable,” there may be a pest or disease that can affect the tree, if present. You can always test your tree by sending samples to the Michigan State University Plant Diagnostics Laboratory; the address is on the resources page of this guide. Most of what is listed are health concerns that have high mortality rates for trees, are an economic burden to communities, and/or are chronically present in Michigan.

### Site Usage

This category refers to different types of sites that a species might be better suited for. It has been divided into the four site types below:

- **Street tree:** Sites near roadways, rights-of-way, medians, tree lawns, and parking lots. Usually areas that are prone to salt and air pollution.
- **Riparian/wet:** Sites near streams, rivers, drainage canals, areas with high flooding, rain gardens, or any body of water.
- **Park/open lawn:** Sites with ample space and usually ample sunlight such as fields, lawns, yards, and park space.
- **Overhead utility friendly:** Sites near overhead utilities such as electrical wires. Species denoted as friendly are based off of DTE Energy and Consumers Energy standards for tree planting and maintenance around power lines.

### Flower/fruit/seed interest

Presence of different flowers, fruit, and seed that are noticeable on the species. These could be a positive or negative feature of the tree if you view such as aesthetically pleasing or utilitarian. Cultivars may exist for a species that come in different flower colors or without seeds if that is something you prioritize. It should be noted for street tree plantings near drainage areas to look up if the fruit, seeds, or seed pods might be an issue for clogging drains.

### Other notes

Important or relevant information about the species that would otherwise not fit into a category on the list. These are supplemental notes provided by the author of this guide.

# Michigan Community Tree Species Selection Guide

| Name                                       | Notable Cultivars                                                                                                                                                                                                | Health Concerns | Site Usage                                                    | Flower/<br>Fruit/<br>Seed | Other Notes                                                                                                                                                                                                                                                       |
|--------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|---------------------------------------------------------------|---------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Acer griseum</b><br>Paperbark Maple     | 'Copper Rocket'- Narrow growth form<br>'Cinnamon Flake'- Improved cold and drought tolerance                                                                                                                     | None Notable    | Street Tree, Park/<br>Open Lawn,<br>Overhead Utility Friendly | Samara                    | MiCoTSS rating is lower due to high representation of maples in Michigan canopies                                                                                                                                                                                 |
| <b>Acer miyabei</b><br>Miyabe Maple        | 'State Street'- Higher tolerance of heat, drought, alkaline soils                                                                                                                                                | None Notable    | Street Tree, Park/<br>Open Lawn                               | Samara                    | MiCoTSS rating is lower due to high representation of maples in Michigan canopies                                                                                                                                                                                 |
| <b>Acer nigrum</b><br>Black Maple          | 'Greencolumn'- Higher heat resistance                                                                                                                                                                            | None Notable    | Riparian/Wet,<br>Park/Open Lawn                               | Samara                    | MiCoTSS rating is lower due to high representation of maples in Michigan canopies                                                                                                                                                                                 |
| <b>Acer palmatum</b><br>Japanese Maple     | Various, more cultivars than any other tree species                                                                                                                                                              | None Notable    | Park/Open Lawn,<br>Overhead Utility Friendly                  | Samara                    | MiCoTSS rating is lower due to high representation of maples in Michigan canopies                                                                                                                                                                                 |
| <b>Acer pensylvanicum</b><br>Striped Maple | None Notable                                                                                                                                                                                                     | None Notable    | Street Tree,<br>Riparian/Wet,<br>Overhead Utility Friendly    | Samara                    | MiCoTSS rating is lower due to high representation of maples in Michigan canopies                                                                                                                                                                                 |
| <b>Acer rubrum</b><br>Red Maple            | 'Autumn Spire'- Columnar growth form with higher tolerance to urban conditions<br>'Redpointe'- Higher tolerance of alkaline soils, resistant to fungal diseases/chlorosis<br>'Red Sunset'- Higher heat tolerance | None Notable    | Street Tree,<br>Riparian/Wet,<br>Park/Open Lawn               | Samara                    | MiCoTSS rating is lower due to high representation of maples in Michigan canopies                                                                                                                                                                                 |
| <b>Acer saccharinum</b><br>Silver Maple    | None Notable                                                                                                                                                                                                     | None Notable    | Riparian/Wet,<br>Park/Open Lawn                               | Samara                    | Used to be planted in communities due to high growth rate. No longer planted due to weak wood and shallow root system. Plant only near bodies of water and in open park areas. MiCoTSS Rating is lower due to high representation of maples in Michigan canopies. |

# Michigan Community Tree Species Selection Guide

| Name                                                  | Notable Cultivars                                                                                                                                                                                                          | Health Concerns                     | Site Usage                                | Flower/<br>Fruit/<br>Seed | Other Notes                                                                                                                                                                                  |
|-------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|-------------------------------------------|---------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Acer saccharum</b><br>Sugar Maple                  | 'Apollo'- Columnar growth form with higher heat resistance<br>'Powder Keg'- Better tolerance to heat, drought, and tough growing conditions<br>'Unity'- Better tolerance for cold climates; resists frost cracking in bark | None Notable                        | Street Tree, Riparian/Wet, Park/Open Lawn | Samara                    | MiCoTSS rating is lower due to high representation of maples in Michigan canopies                                                                                                            |
| <b>Acer x freemanii</b><br>Paperbark Maple            | Various                                                                                                                                                                                                                    | Frost Damage                        | Street Tree, Riparian/Wet, Park/Open Lawn | Samara                    | Hybrid between red and silver maples. Shallow root system. Thin bark makes tree susceptible to frost and mechanical damage. Is picky with soil pH. Chance of grafting compatibility failure. |
| <b>Aesculus flava</b><br>Yellow Buckeye               | 'Apollo'- Columnar growth form with higher heat resistance<br>'Powder Keg'- Higher tolerance to heat, drought, and tough growing conditions<br>'Unity'- Higher cold tolerance, resists frost cracking in bark              | Guignardia Leaf Blotch, Anthracnose | Park/Open Lawn                            | Flowers, Seed Pod, Nut    | Seeds harmful if ingested.                                                                                                                                                                   |
| <b>Aesculus glabra</b><br>Ohio Buckeye                | 'JN Select'- Scorch resistant foliage, less fruit production                                                                                                                                                               | Guignardia Leaf Blotch, Anthracnose | Park/Open Lawn                            | Flowers, Seed Pod, Nut    | None                                                                                                                                                                                         |
| <b>Aesculus hippocastanum</b><br>Common Horsechestnut | None                                                                                                                                                                                                                       | Guignardia Leaf Blotch, Anthracnose | Park/Open Lawn                            | Flowers, Seed Pod, Nut    | None                                                                                                                                                                                         |

# Michigan Community Tree Species Selection Guide

| Name                                                                        | Notable Cultivars                                                                                | Health Concerns                     | Site Usage                                                            | Flower/<br>Fruit/<br>Seed | Other Notes                                                                     |
|-----------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|-------------------------------------|-----------------------------------------------------------------------|---------------------------|---------------------------------------------------------------------------------|
| <b>Aesculus parviflora</b><br>Bottlebrush Buckeye                           | None                                                                                             | Guignardia Leaf Blotch, Anthracnose | Park/Open Lawn, Overhead Utility Friendly                             | Flowers, Seed Pod, Nut    | None                                                                            |
| <b>Aesculus x arnoldiana</b><br>Arnold Buckeye                              | 'Autumn Splendor'- Resistant to leaf blotch                                                      | Guignardia Leaf Blotch, Anthracnose | Park/Open Lawn, Overhead Utility Friendly                             | Flowers, Seed Pod, Nut    | None                                                                            |
| <b>Aesculus x carnea</b><br>Red Horsechestnut                               | 'Briotii'- Slight scorch resistance, compact growth habit<br>'Ft. McNair'- Columnar growth habit | Guignardia Leaf Blotch, Anthracnose | Park/Open Lawn                                                        | Flowers, Seed Pod, Nut    | None                                                                            |
| <b>Alnus incana subsp. Rugosa</b><br>Speckled Alder                         | None                                                                                             | None Notable                        | Riparian/Wet, Overhead Utility Friendly                               | Catkins                   | Ideal for drainage sites.                                                       |
| <b>Alnus serrulata</b><br>Smooth Alder/ Hazel Alder                         | None                                                                                             | None Notable                        | Riparian/Wet, Overhead Utility Friendly                               | Catkins                   | Ideal for drainage sites.                                                       |
| <b>Amelanchier alnifolia</b><br>Saskatoon Serviceberry                      | None                                                                                             | Japanese Beetle                     | Riparian/Wet, Park/ Open Lawn, Overhead Utility Friendly              | Flowers, Berry, Fruit     | More of a shrub than tree. High yielding berry producer of Amelanchier species. |
| <b>Amelanchier arborea</b><br>Downy Serviceberry/ Juneberry                 | 'Autumn Sunset'- Higher heat and drought tolerance                                               | Japanese Beetle                     | Street Tree, Park/ Open Lawn, Overhead Utility Friendly               | Flowers, Berry, Fruit     | None                                                                            |
| <b>Amelanchier canadensis</b><br>Shadblow Serviceberry/ Canada Serviceberry | 'Glenform'- Upright growth habit                                                                 | Japanese Beetle                     | Street Tree, Riparian/Wet, Park/ Open Lawn, Overhead Utility Friendly | Flowers, Berry, Fruit     | None                                                                            |

# Michigan Community Tree Species Selection Guide

| Name                                                   | Notable Cultivars                                                                                                          | Health Concerns    | Site Usage                                           | Flower/Fruit/Seed        | Other Notes                                                 |
|--------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|--------------------|------------------------------------------------------|--------------------------|-------------------------------------------------------------|
| <b>Amelanchier laevis</b><br>Allegheny Serviceberry    | 'Snowcloud'- Better form and tolerance to urban conditions                                                                 | Japanese Beetle    | Street Tree, Park/<br>Open Lawn,<br>Overhead Utility | Flowers,<br>Berry, Fruit | None                                                        |
| <b>Amelanchier x grandiflora</b><br>Apple Serviceberry | 'Robin Hill'- Higher tolerance to urban conditions, produces                                                               | Japanese Beetle    | Street Tree, Park/<br>Open Lawn,<br>Overhead Utility | Flowers,<br>Berry, Fruit | Heavy berry producer.                                       |
| <b>Asimina triloba</b><br>Pawpaw/ Custard Apple        | 'Davis'- Keeps fruit well in the cold                                                                                      | None Notable       | Riparian/Wet, Park/<br>Open Lawn                     | Fruit                    | Coveted for its edible fruit. Spreads clonally through root |
| <b>Betula alleghaniensis</b><br>Yellow Birch           | None                                                                                                                       | Bronze Birch Borer | Riparian/Wet, Park/<br>Open Lawn                     | Catkins                  | None                                                        |
| <b>Betula nigra</b><br>River Birch                     | 'Little King'- Dwarf variety for compact spaces<br>'Dura Heat'- Higher heat tolerance<br>'Heritage'- Higher heat tolerance | Bronze Birch Borer | Street Tree,<br>Riparian/Wet                         | Catkins                  | None                                                        |
| <b>Betula papyrifera</b><br>Paper Birch                | 'Renci'- Resists Bronze Birch Borer damage<br>'Varen'- Higher tolerance to urban conditions                                | Bronze Birch Borer | Riparian/Wet, Park/<br>Open Lawn                     | Catkins                  | None                                                        |
| <b>Betula platyphylla</b><br>Japanese White Birch      | 'Fargo'- Columnar growth form with high wind tolerance<br>'Jefpark'- Higher tolerance to urban conditions                  | Bronze Birch Borer | Street Tree, Park/<br>Open Lawn                      | Catkins                  | None                                                        |
| <b>Betula populifolia</b><br>Gray Birch                | None                                                                                                                       | Bronze Birch Borer | Riparian/Wet                                         | Catkins                  | None                                                        |
| <b>Carpinus betulus</b><br>European Hornbeam           | 'JFS-KW1CB'- Pyramidal growth form, higher heat tolerance<br>'Frans Fontaine'-                                             | None Notable       | Street Tree, Park/<br>Open Lawn                      | Catkins                  | None                                                        |

# Michigan Community Tree Species Selection Guide

| Name                                                                           | Notable Cultivars                                                                                                                          | Health Concerns           | Site Usage                                                           | Flower/Fruit/Seed | Other Notes                                                                                                   |
|--------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|----------------------------------------------------------------------|-------------------|---------------------------------------------------------------------------------------------------------------|
| <b>Carpinus caroliniana</b><br>American Hornbeam/<br>Musclewood/<br>Blue Beech | 'Uxbridge'- Higher tolerance to urban conditions<br>'CCSQU'- Dense growth form<br>'JN Strain'- Higher tolerance to clay and alkaline soils | None Notable              | Street Tree, Riparian/Wet, Park/Open Lawn, Overhead Utility Friendly | Catkins           | Attractive bark and availability in single-stem or multiple-stem variants make this tree an adaptable choice. |
| <b>Carya cardiformis</b><br>Bitternut Hickory/<br>Swamp Hickory                | None                                                                                                                                       | None Notable              | Riparian/Wet, Park/Open Lawn                                         | Nut               | Deep taproot.                                                                                                 |
| <b>Carya glabra</b><br>Pignut Hickory                                          | None                                                                                                                                       | None Notable              | Park/Open Lawn                                                       | Nut               | Deep taproot.                                                                                                 |
| <b>Carya illinoensis</b><br>Hardy Pecan                                        | None                                                                                                                                       | Various pests and disease | Park/Open Lawn                                                       | Nut               | Deep taproot.                                                                                                 |
| <b>Carya laciniosa</b><br>Shellbark Hickory                                    | None                                                                                                                                       | None Notable              | Riparian/Wet, Park/Open Lawn                                         | Nut               | Deep taproot.                                                                                                 |
| <b>Carya ovata</b><br>Shagbark Hickory                                         | None                                                                                                                                       | None Notable              | Riparian/Wet, Park/Open Lawn                                         | Nut               | Deep taproot.                                                                                                 |
| <b>Carya tomentosa</b><br>Mockernut Hickory                                    | None                                                                                                                                       | None Notable              | Park/Open Lawn                                                       | Nut               | Deep taproot.                                                                                                 |
| <b>Catalpa bignonioides</b><br>Southern Catalpa                                | None                                                                                                                                       | None Notable              | Riparian/Wet, Park/Open Lawn                                         | Flowers, Seed Pod | None                                                                                                          |
| <b>Catalpa speciosa</b><br>Northern Catalpa                                    | 'Hiawatha 2'- Narrow growth form and higher tolerance to urban environments                                                                | None Notable              | Park/Open Lawn                                                       | Flowers, Seed Pod | None                                                                                                          |

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| Name                                                                       | Notable Cultivars                                                                                                                                                | Health Concerns                                      | Site Usage                                              | Flower/<br>Fruit/<br>Seed | Other Notes                                                                                                         |
|----------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------|---------------------------------------------------------|---------------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Celtis laevigata</b><br>Sugarberry/ Sugar Hackberry/ Southern Hackberry | None                                                                                                                                                             | Anthrachnose, Nipple Gall                            | Street Tree, Riparian/Wet, Park/Open Lawn               | Drupe                     | None                                                                                                                |
| <b>Celtis occidentalis</b><br>Common Hackberry                             | 'Chicagoland'- Compact growth form<br>'Magnifica'- Higher tolerance to salt and drought<br>'Prairie Sentinel'- Narrow form, higher tolerance to urban conditions | Anthrachnose, Nipple Gall                            | Street Tree, Riparian/Wet, Park/Open Lawn               | Drupe                     | Great at water filtration. Underutilized species.                                                                   |
| <b>Celtis tenuifolia</b><br>Dwarf Hackberry                                | None                                                                                                                                                             | Anthrachnose, Nipple Gall                            | Riparian/Wet, Park/Open Lawn, Overhead Utility Friendly | Drupe                     | Difficult to find commercially.                                                                                     |
| <b>Cercidiphyllum japonicum</b><br>Katsura Tree                            | 'Heronwood Globe'- Dwarf variety<br>'Hanna's Heart'- Narrow growth form<br>'Kooldak'- Higher cold tolerance                                                      | None Notable                                         | Street Tree, Riparian/Wet, Park/Open Lawn               | None Notable              | Shallow root system. Usually used as a specimen tree for landscaping. Pleasant smell in the spring.                 |
| <b>Cercis canadensis</b><br>Eastern Redbud                                 | 'MN Strain'- Higher cold tolerance<br>'Ace of Hearts'- Dwarf variety                                                                                             | Does poorly when exposed to full sun or extreme heat | Riparian/Wet, Park/Open Lawn, Overhead Utility Friendly | Flowers                   | Great Michigan native tree with striking pink flowers but occasionally splits apart in maturity due to growth form. |
| <b>Chionanthus retusus</b><br>Chinese Fringetree                           | 'Tokyo Tower'- Narrow growth form                                                                                                                                | Rarely affected by Emerald Ash Borer                 | Park/Open Lawn, Overhead Utility Friendly               | Flowers                   | Preferable to plant the U.S. native White Fringetree.                                                               |
| <b>Chionanthus virginicus</b><br>White Fringetree                          | None                                                                                                                                                             | Rarely affected by Emerald Ash Borer                 | Park/Open Lawn, Overhead Utility Friendly               | Flowers                   | Plantings in Central and Southeast Michigan have no observed Emerald Ash Borer damage.                              |

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| Name                                                                       | Notable Cultivars                                                                                                                                              | Health Concerns                                        | Site Usage                                                       | Flower/<br>Fruit/ | Other Notes                                                                                                                                      |
|----------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|------------------------------------------------------------------|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Cladrastis kentuckea</b><br>Yellowwood                                  | 'Perkins Pink'-<br>Higher tolerance<br>of drought and<br>different soil pH                                                                                     | None Notable                                           | Park/Open Lawn                                                   | Flowers           | Great species for air<br>filtration. Weaker wood and<br>wide spread make it<br>unsuitable for street tree<br>use. Fixes nitrogen in the<br>soil. |
| <b>Cornus alternifolia</b><br>Pagoda Dogwood/<br>Alternate-Leaf<br>Dogwood | 'Siberica'- Narrow<br>growth form                                                                                                                              | Anthrachnose,<br>various other<br>pests and<br>disease | Riparian/Wet,<br>Overhead Utility<br>Friendly                    | Flowers           | None                                                                                                                                             |
| <b>Cornus florida</b><br>Flowering Dogwood                                 | None                                                                                                                                                           | Anthrachnose,<br>various other<br>pests and<br>disease | Riparian/Wet,<br>Park/Open Lawn,<br>Overhead Utility<br>Friendly | Flowers           | None                                                                                                                                             |
| <b>Cornus kousa</b><br>Kousa Dogwood                                       | 'Cherokee<br>Princess'- Highly<br>resistant to spot<br>anthracnose<br>'Pygmy'- Dwarf<br>growth from<br>'Appalachian<br>Blush'- Higher<br>disease<br>resistance | Anthrachnose,<br>various other<br>pests and<br>disease | Park/Open Lawn,<br>Overhead Utility<br>Friendly                  | Flowers           | None                                                                                                                                             |
| <b>Cornus mas</b><br>Corneliancherry<br>Dogwood                            | 'Golden Glory'-<br>Higher tolerance<br>for urban<br>conditions<br>'Redstone'-<br>Higher tolerance<br>for urban<br>conditions                                   | Anthrachnose,<br>various other<br>pests and<br>disease | Park/Open Lawn,<br>Overhead Utility<br>Friendly                  | Flowers,<br>Berry | None                                                                                                                                             |
| <b>Corylus colurna</b><br>Turkish Filbert/<br>Turkish Hazelnut             | None                                                                                                                                                           | Eastern Filbert<br>Blight                              | Street Tree, Park/<br>Open Lawn                                  | Nut, Seed<br>Pod  | None                                                                                                                                             |
| <b>Cotinus obovatus</b><br>American<br>Smoketree/<br>Chittamwood           | None                                                                                                                                                           | None Notable                                           | Riparian/Wet,<br>Park/Open Lawn,<br>Overhead Utility<br>Friendly | Flowers           | None                                                                                                                                             |

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| Name                                                | Notable Cultivars                                                            | Health Concerns                        | Site Usage                                              | Flower/Fruit/Seed | Other Notes                                            |
|-----------------------------------------------------|------------------------------------------------------------------------------|----------------------------------------|---------------------------------------------------------|-------------------|--------------------------------------------------------|
| <b>Crataegus crusgalli</b><br>Cockspur Hawthorn     | 'Cruzam Crusader'-<br>Thornless variety                                      | Fireblight, rusts, scab, various pests | Park/Open Lawn, Overhead Utility Friendly               | Flowers, Fruit    | Has long thorns but thornless cultivars are available. |
| <b>Crataegus phaenopyrum</b><br>Washington Hawthorn | 'Washington Lustre'- Higher tolerance and adaptability to urban conditions   | Fireblight, rusts, scab, various pests | Park/Open Lawn, Overhead Utility Friendly               | Flowers, Fruit    | Has long thorns but thornless cultivars are available. |
| <b>Crataegus viridis</b><br>Green Hawthorn          | 'Winter King'- Flat top branching form, higher tolerance to urban conditions | Fireblight, rusts, scab, various pests | Park/Open Lawn, Overhead Utility Friendly               | Flowers, Fruit    | Has long thorns but thornless cultivars are available. |
| <b>Diospyros virginiana</b><br>Common Persimmon     | None                                                                         | None Notable                           | Park/Open Lawn                                          | Flowers, Fruit    | Female varieties produce fruit.                        |
| <b>Eucommia ulmoides</b><br>Hardy Rubber Tree       | None                                                                         | None Notable                           | Park/Open Lawn                                          | None Notable      | None                                                   |
| <b>Fagus grandifolia</b><br>American Beech          | None                                                                         | Beech Bark Disease, Beech Leaf Disease | Park/Open Lawn                                          | Nut, Seed Pod     | None                                                   |
| <b>Fagus sylvatica</b><br>European Beech            | None                                                                         | Beech Bark Disease, Beech Leaf Disease | Park/Open Lawn                                          | Nut, Seed Pod     | None                                                   |
| <b>Franklinia alatamaha</b><br>Franklin Tree        | None                                                                         | None Notable                           | Riparian/Wet, Park/Open Lawn, Overhead Utility Friendly | Flowers           | Difficult to transplant.                               |

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| Name                                                                 | Notable Cultivars                                                                                                                                                                                       | Health Concerns                        | Site Usage                                | Flower/<br>Fruit/ | Other Notes                                                                                                                                                       |
|----------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|-------------------------------------------|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Ginkgo biloba</b><br>Ginkgo/<br>Maidenhair Tree                   | 'Princeton Sentry'- Narrow growth form, higher tolerance to urban conditions<br>'Magyar'- Fruitless, higher tolerance to urban conditions<br>'The President'- Fruitless, dense branching                | None Notable                           | Street Tree, Park/Open Lawn               | Fruit             | Male varieties are fruitless but could possibly revert to female form and produce fruit.                                                                          |
| <b>Gleditsia triacanthos var. inermis</b><br>Thornless Honeylocust   | 'Skyline'- Seedless, higher tolerance to urban conditions<br>'Imperial'- Compact growth form, seedless, higher tolerance to urban conditions<br>'Halka'- Seedless, higher tolerance to urban conditions | None Notable                           | Street Tree, Park/Open Lawn               | Seed Pod          | Has thorns but thornless cultivars are available. Highly rot resistant wood and holds lower branches that require occasional pruning. Fixes nitrogen in the soil. |
| <b>Gymnocladus dioicus</b><br>Kentucky Coffeetree                    | 'Espresso'- Seedless<br>'True North'- Seedless, higher cold tolerance<br>'Skinny Latte'- Narrow and smaller growth form                                                                                 | None Notable                           | Street Tree, Riparian/Wet, Park/Open Lawn | Seed Pod          | Exceptionally high tolerance to urban conditions.                                                                                                                 |
| <b>Halesia carolina</b><br>Carolina Silverbell/<br>Common Silverbell | None                                                                                                                                                                                                    | None Notable                           | Riparian/Wet, Overhead Utility Friendly   | Flowers, Seed Pod | None                                                                                                                                                              |
| <b>Hamamelis vernalis</b><br>Vernal Witch hazel                      | 'Autumn Embers'- Upright growth form                                                                                                                                                                    | None Notable                           | Riparian/Wet, Overhead Utility Friendly   | Flowers           | Can spread through root suckers.                                                                                                                                  |
| <b>Hamamelis virginiana</b><br>Common Witch hazel                    | None                                                                                                                                                                                                    | None Notable                           | Riparian/Wet, Overhead Utility Friendly   | Flowers           | Can spread through root suckers.                                                                                                                                  |
| <b>Hydrangea paniculata</b><br>Panicle Hydrangea                     | None                                                                                                                                                                                                    | Beech Bark Disease, Beech Leaf Disease | Park/Open Lawn, Overhead Utility Friendly | Flowers           | Usually used in small 'tree' forms for decorative purposes.                                                                                                       |

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| Name                                                                     | Notable Cultivars                                                                                                                                    | Health Concerns | Site Usage                                              | Flower/<br>Fruit/<br>Seed | Other Notes                                                                                                                                             |
|--------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|---------------------------------------------------------|---------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Juglans cinerea</b><br>Butternut/ White Walnut                        | None                                                                                                                                                 | None Notable    | Park/Open Lawn                                          | Nut                       | Roots secrete juglone which inhibits growth of other plants around tree.                                                                                |
| <b>Juglans nigra</b><br>Black Walnut                                     | None                                                                                                                                                 | None Notable    | Park/Open Lawn                                          | Nut                       | Roots secrete juglone which inhibits growth of other plants around tree.                                                                                |
| <b>Laburnum anagyroides</b><br>Common Laburnum/ Golden Chain Tree        | None                                                                                                                                                 | None Notable    | Park/Open Lawn, Overhead Utility Friendly               | Flowers, Seed Pod         | Seeds harmful if ingested. Fixes nitrogen in the soil.                                                                                                  |
| <b>Liquidambar styraciflua</b><br>Sweetgum                               | 'Rotundiloba'- Seedless with interesting leaf shape<br>'Clydesform'- Compact and narrow growth form<br>'Slender Silhouette'- Very narrow growth form | None Notable    | Street Tree, Park/ Open Lawn                            | Seed Pod                  | Spiked seed balls add ornamental value but could be a burden to clean up.                                                                               |
| <b>Liriodendron tulipifera</b><br>Tuliptree/ Tulip Poplar/ Yellow Poplar | 'Fastigiatum'- Narrow growth form<br>'JFS-Oz'- Uniform and upright growth form<br>'Compactum'- Dwarf variety                                         | None Notable    | Street Tree, Park/ Open Lawn                            | Flowers                   | None                                                                                                                                                    |
| <b>Maackia amurensis</b><br>Amur Maackia                                 | None                                                                                                                                                 | None Notable    | Street Tree, Park/ Open Lawn, Overhead Utility Friendly | Flowers                   | Fixes nitrogen in the soil.                                                                                                                             |
| <b>Maclura pomifera</b><br>Osage Orange                                  | 'Double O'- Thornless, upright growth form<br>'White Shield'- Thornless, fruitless<br>'Wichita'- Higher tolerance to urban conditions                | None Notable    | Park/Open Lawn                                          | Fruit                     | Thornless and fruitless varieties are available. Fruitless varieties could be used as a street tree. Fruit is sometimes referred to as a 'spider ball'. |

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| Name                                                  | Notable Cultivars                                                                                        | Health Concerns                          | Site Usage                                   | Flower/<br>Fruit/ | Other Notes                                                                                                |
|-------------------------------------------------------|----------------------------------------------------------------------------------------------------------|------------------------------------------|----------------------------------------------|-------------------|------------------------------------------------------------------------------------------------------------|
| <b>Magnolia acuminata</b><br>Cucumbertree<br>Magnolia | None                                                                                                     | Magnolia Scale                           | Park/Open Lawn                               | Flowers           | Highest cold tolerance of the magnolia species.                                                            |
| <b>Magnolia stellata</b><br>Star Magnolia             | None                                                                                                     | Magnolia Scale                           | Park/Open Lawn, Overhead<br>Utility Friendly | Flowers           | None                                                                                                       |
| <b>Magnolia virginiana</b><br>Sweetbay Magnolia       | None                                                                                                     | Magnolia Scale                           | Riparian/Wet,<br>Park/Open Lawn              | Flowers           | None                                                                                                       |
| <b>Magnolia x loebneri</b><br>Loebner Magnolia        | None                                                                                                     | Magnolia Scale                           | Park/Open Lawn, Overhead<br>Utility Friendly | Flowers           | None                                                                                                       |
| <b>Magnolia x soulangiana</b><br>Saucer Magnolia      | None                                                                                                     | Magnolia Scale                           | Park/Open Lawn, Overhead<br>Utility Friendly | Flowers           | None                                                                                                       |
| <b>Malus sargentii</b><br>Sargent Crabapple           | None                                                                                                     | Apple Cedar Rust, Apple Scab, Fireblight | Park/Open Lawn, Overhead<br>Utility Friendly | Flowers , Fruit   | Potentially higher rates of disease and pest issues due to climate change.                                 |
| <b>Malus spp.</b><br>Crabapple                        | Various with different pest and disease resistance                                                       | Apple Cedar Rust, Apple Scab, Fireblight | Park/Open Lawn, Overhead<br>Utility Friendly | Flowers , Fruit   | Potentially higher rates of disease and pest issues due to climate change.                                 |
| <b>Metasequoia glyptostroboides</b><br>Dawn Redwood   | 'Gold Rush'- Higher tolerance to temperature fluctuations<br>'JFS-PN3Legacy'- Upright and uniform growth | None Notable                             | Street Tree, Riparian/Wet,<br>Park/Open Lawn | None Notable      | Deciduous conifer. Similar to Baldcypress.                                                                 |
| <b>Nyssa sylvatica</b><br>Black Gum/ Black Tupelo     | 'David Odom'- Better growth form for streetscapes                                                        | Leaf Spot                                | Street Tree, Riparian/Wet,<br>Park/Open Lawn | Drupe             | Sometimes difficult to establish. Deep red fall color make this species a good alternative to maple trees. |

# Michigan Community Tree Species Selection Guide

| Name                                                             | Notable Cultivars                                                                                                                                                                                                | Health Concerns           | Site Usage                                | Flower/<br>Fruit/<br>Seed | Other Notes                                                                                                                                                                                                                           |
|------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|-------------------------------------------|---------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Ostrya virginiana</b><br>American Hop-Hornbeam/<br>Ironwood   | 'JFS-KWS' - Upright growth form                                                                                                                                                                                  | None Notable              | Street Tree, Riparian/Wet, Park/Open Lawn | Flowers                   | Very strong wood. Good for bollard plantings.                                                                                                                                                                                         |
| <b>Oxydendrum arboreum</b><br>Sourwood/ Lily-of-the-Valley Tree  | None                                                                                                                                                                                                             | None Notable              | Park/Open Lawn, Overhead Utility Friendly | Flowers                   | None                                                                                                                                                                                                                                  |
| <b>Parrotia persica</b><br>Persian Parrotia/<br>Persian Ironwood | 'JLColumnar' - Narrow growth form<br>'Inge's Ruby Vase' - Narrow upright growth form<br>'Vanessa' - Vase shaped growth form                                                                                      | None Notable              | Street Tree, Park/Open Lawn               | Flowers                   | None                                                                                                                                                                                                                                  |
| <b>Platanus occidentalis</b><br>Sycamore                         | None                                                                                                                                                                                                             | Anthrachnose              | Street Tree, Park/Open Lawn               | Seed Pod                  | High emissions of volatile organic compounds and pollen in spring.                                                                                                                                                                    |
| <b>Platanus x acerifolia</b><br>London Planetree                 | 'Bloodgood' - Higher resistance to anthracnose<br>'Morton Circle' - Higher tolerance to urban conditions, higher anthracnose resistance, denser growth form<br>'Morton Naper' - Higher resistance to anthracnose | Anthrachnose              | Street Tree, Park/Open Lawn               | Seed Pod                  | High emissions of volatile organic compounds and pollen in spring.                                                                                                                                                                    |
| <b>Populus spp.</b><br>Aspen/ Poplar/<br>Cottonwood              | None                                                                                                                                                                                                             | Various pests and disease | Riparian/Wet, Park/Open Lawn              | Catkins                   | Grouping this genus of species that are rarely planted in managed landscapes but good for parks and erosion control. Weak wood. Spreads clonally through roots. Should be planted far away from any above- or below-ground utilities. |

# Michigan Community Tree Species Selection Guide

| Name                                                      | Notable Cultivars                                                 | Health Concerns                    | Site Usage                                | Flower/<br>Fruit/ | Other Notes                                                                                                             |
|-----------------------------------------------------------|-------------------------------------------------------------------|------------------------------------|-------------------------------------------|-------------------|-------------------------------------------------------------------------------------------------------------------------|
| <b>Prunus americana</b><br>American Plum                  | None                                                              | Various pests and disease          | Overhead Utility Friendly                 | Flowers, Fruit    | None                                                                                                                    |
| <b>Prunus nigra</b><br>Canadian Plum                      | None                                                              | Various pests and disease          | Overhead Utility Friendly                 | Flowers, Fruit    | None                                                                                                                    |
| <b>Prunus sargentii</b><br>Sargent Cherry                 | ‘Columnaris’- Vase shaped growth form                             | Various pests and disease          | Park/Open Lawn                            | Flowers, Fruit    | None                                                                                                                    |
| <b>Prunus serotina</b><br>Black Cherry                    | None                                                              | Various pests and disease          | Park/Open Lawn                            | Flowers, Fruit    | None                                                                                                                    |
| <b>Prunus serrulata</b><br>Japanese Flowering Cherry      | ‘Kwanzan’- Vase shaped growth form                                | Various pests and disease          | Park/Open Lawn, Overhead Utility Friendly | Flowers, Fruit    | None                                                                                                                    |
| <b>Prunus spp.</b><br>Ornamental Cherry                   | Various with different pest/ disease resistances and growth forms | Various pests and disease          | Park/Open Lawn, Overhead Utility Friendly | Flowers, Fruit    | There are many Prunus species not listed within this guide. This is just a general genus summary of those not included. |
| <b>Prunus virginiana</b><br>Chokecherry                   | None                                                              | Various pests and disease          | Park/Open Lawn, Overhead Utility Friendly | Flowers, Drupe    | None                                                                                                                    |
| <b>Ptelea trifoliata</b><br>Wafer-Ash/<br>Common Hop Tree | None                                                              | None Notable                       | Park/Open Lawn, Overhead Utility Friendly | Samara            | Can have an unpleasant odor.                                                                                            |
| <b>Quercus alba</b><br>White Oak                          | None                                                              | Oak Wilt, Two-lined Chestnut Borer | Street Tree, Park/ Open Lawn              | Nut               | Deep taproot. Resistant to oak wilt.                                                                                    |

# Michigan Community Tree Species Selection Guide

| Name                                             | Notable Cultivars                                                                                                            | Health Concerns                    | Site Usage                                | Flower/Fruit/Seed | Other Notes                                   |
|--------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|------------------------------------|-------------------------------------------|-------------------|-----------------------------------------------|
| <b>Quercus bicolor</b><br>Swamp White Oak        | 'American Dream'-<br>Pyramidal growth form<br>'Bonnie & Mike'-<br>Columnar growth form, higher tolerance to urban conditions | Oak Wilt, Two-lined Chestnut Borer | Street Tree, Riparian/Wet, Park/Open Lawn | Nut               | Deep taproot. Resistant to oak wilt.          |
| <b>Quercus coccinea</b><br>Scarlet Oak           | None                                                                                                                         | Oak Wilt, Two-lined Chestnut Borer | Street Tree, Park/Open Lawn               | Nut               | Deep taproot.                                 |
| <b>Quercus ellipsoidalis</b><br>Northern Pin Oak | None                                                                                                                         | Oak Wilt, Two-lined Chestnut Borer | Park/Open Lawn                            | Nut               | Deep taproot.                                 |
| <b>Quercus imbricaria</b><br>Shingle Oak         | None                                                                                                                         | Oak Wilt, Two-lined Chestnut Borer | Street Tree, Park/Open Lawn               | Nut               | Deep taproot.                                 |
| <b>Quercus lyrata</b><br>Overcup Oak             | None                                                                                                                         | Oak Wilt, Two-lined Chestnut Borer | Park/Open Lawn                            | Nut               | Deep taproot. Resistant to oak wilt.          |
| <b>Quercus macrocarpa</b><br>Bur Oak             | 'JFS-KW14'-<br>Uniform branching with higher anthracnose and                                                                 | Oak Wilt, Two-lined Chestnut Borer | Street Tree, Park/Open Lawn               | Nut               | Deep taproot. Slightly resistant to oak wilt. |
| <b>Quercus michauxii</b><br>Swamp Chestnut Oak   | None                                                                                                                         | Oak Wilt, Two-lined Chestnut Borer | Street Tree, Riparian/Wet, Park/Open Lawn | Nut               | Deep taproot. Resistant to oak wilt.          |
| <b>Quercus montana</b><br>Chestnut Oak           | None                                                                                                                         | Oak Wilt, Two-lined Chestnut Borer | Park/Open Lawn                            | Nut               | Deep taproot.                                 |
| <b>Quercus muehlenbergii</b><br>Chinkapin Oak    | None                                                                                                                         | Oak Wilt, Two-lined Chestnut Borer | Park/Open Lawn                            | Nut               | Deep taproot. Resistant to oak wilt.          |

# Michigan Community Tree Species Selection Guide

| Name                                                      | Notable Cultivars                                                                                                                        | Health Concerns                    | Site Usage                                | Flower/<br>Fruit/ | Other Notes                                                                                   |
|-----------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|-------------------------------------------|-------------------|-----------------------------------------------------------------------------------------------|
| <b>Quercus palustris</b><br>Pin Oak                       | None                                                                                                                                     | Oak Wilt, Two-lined Chestnut Borer | Street Tree, Park/Open Lawn               | Nut               | Deep taproot.                                                                                 |
| <b>Quercus phellos</b><br>Willow Oak                      | None                                                                                                                                     | Oak Wilt, Two-lined Chestnut Borer | Street Tree, Park/Open Lawn               | Nut               | Deep taproot.                                                                                 |
| <b>Quercus robur</b><br>English Oak                       | 'Fastigiata' - Narrow growth form, higher tolerance to urban                                                                             | Oak Wilt, Two-lined Chestnut Borer | Street Tree, Park/Open Lawn               | Nut               | Deep taproot.                                                                                 |
| <b>Quercus rubra</b><br>Northern Red Oak                  | None                                                                                                                                     | Oak Wilt, Two-lined Chestnut Borer | Street Tree, Park/Open Lawn               | Nut               | Deep taproot.                                                                                 |
| <b>Quercus shumardii</b><br>Shumard Oak/<br>Swamp Red Oak | None                                                                                                                                     | Oak Wilt, Two-lined Chestnut Borer | Street Tree, Riparian/Wet, Park/Open Lawn | Nut               | Deep taproot.                                                                                 |
| <b>Quercus velutina</b><br>Black Oak                      | None                                                                                                                                     | Oak Wilt, Two-lined Chestnut Borer | Street Tree, Park/Open Lawn               | Nut               | Deep taproot.                                                                                 |
| <b>Quercus x.</b><br>Hybrid Oaks                          | 'Nadler' - Narrow growth form, higher tolerance to urban conditions<br>'Long' - Narrow growth form, higher tolerance to urban conditions | Oak Wilt, Two-lined Chestnut Borer | Street Tree, Park/Open Lawn               | Nut               | Deep taproot. Vary in traits and tolerances. Reported failure of hybrids throughout Michigan. |
| <b>Salix nigra</b><br>Black Willow                        | None                                                                                                                                     | Various pests and disease          | Riparian/Wet                              | Catkins           | Fast growing tree with short lifespan. Weak wood. Root system pursues water                   |
| <b>Sassafras albidum</b><br>Sassafras                     | None                                                                                                                                     | None Notable                       | Riparian/Wet, Park/Open Lawn              | None Notable      | Leaves and bark have a pleasant scent.                                                        |

# Michigan Community Tree Species Selection Guide

| Name                                                                       | Notable Cultivars                                                                                                                            | Health Concerns | Site Usage                                    | Flower/<br>Fruit/ | Other Notes                                                                                            |
|----------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|-----------------|-----------------------------------------------|-------------------|--------------------------------------------------------------------------------------------------------|
| <b>Stewartia pseudocamellia</b><br>Korean Stewartia/<br>Japanese Stewartia | 'Pilar Bella'- Columnar growth form                                                                                                          | None Notable    | Park/Open Lawn                                | Flowers           | None                                                                                                   |
| <b>Styrax japonicus</b><br>Japanese Snowbell                               | None                                                                                                                                         | None Notable    | Park/Open Lawn,<br>Overhead Utility Friendly  | Flowers           | None                                                                                                   |
| <b>Styrax obassia</b><br>Fragrant Snowbell                                 | None                                                                                                                                         | None Notable    | Park/Open Lawn,<br>Overhead Utility Friendly  | Flowers           | None                                                                                                   |
| <b>Taxodium distichum</b><br>Baldcypress                                   | 'Mickelson'- Narrow growth form, higher tolerance to urban conditions<br>'Skyward'- Dwarf variety for areas around utility wires             | None Notable    | Street Tree, Riparian/Wet, Park/<br>Open Lawn | None Notable      | Deciduous conifer. Observed successful plantings in Northern Midwest despite being a southern species. |
| <b>Taxodium distichum var. imbricarium</b><br>Pondcypress                  | 'Carolyn Malone'- Higher heat and flooding tolerance                                                                                         | None Notable    | Street Tree, Riparian/Wet, Park/<br>Open Lawn | None Notable      | Deciduous conifer. A variety of Baldcypress.                                                           |
| <b>Tilia americana</b><br>American Linden/<br>Basswood                     | 'Bailyard'- Dense branching form<br>'Boulevard'- Narrow growth form, higher tolerance to urban conditions<br>'McKSentry'- Narrow growth form | Japanese Beetle | Street Tree, Park/<br>Open Lawn               | Flowers           | Commonly sprouts from base of the tree but can be pruned back as suckers appear.                       |

# Michigan Community Tree Species Selection Guide

| Name                                       | Notable Cultivars                                                                                                                    | Health Concerns   | Site Usage                                    | Flower/<br>Fruit/ | Other Notes                                                                      |
|--------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|-------------------|-----------------------------------------------|-------------------|----------------------------------------------------------------------------------|
| <b>Tilia cordata</b><br>Littleleaf Linden  | 'Greenspire'- Higher tolerance to urban conditions<br>'Glenleven'- Higher tolerance to urban                                         | Japanese Beetle   | Street Tree, Park/<br>Open Lawn               | Flowers           | Commonly sprouts from base of the tree but can be pruned back as suckers appear. |
| <b>Tilia tomentosa</b><br>Silver Linden    | 'Sashazam'- Higher drought tolerance<br>'Sterling'- Leaves resist insect feeding damage                                              | Japanese Beetle   | Street Tree, Park/<br>Open Lawn               | Flowers           | Commonly sprouts from base of the tree but can be pruned back as suckers appear. |
| <b>Tilia x.</b><br>Hybrid Lindens          | 'Redmond'- Higher tolerance to urban conditions                                                                                      | Japanese Beetle   | Street Tree, Park/<br>Open Lawn               | Flowers           | Commonly sprouts from base of the tree but can be pruned back as                 |
| <b>Ulmus americana</b><br>American Elm     | Various cultivars with Dutch Elm Disease resistance                                                                                  | Dutch Elm Disease | Street Tree, Riparian/<br>Wet, Park/Open Lawn | None<br>Notable   | Should only plant varieties that have Dutch Elm Disease resistance.              |
| <b>Ulmus x.</b><br>Hybrid Elms             | 'Morton Accolade'- Dutch Elm Disease resistance<br>'New Horizon'- Dutch Elm Disease resistance, higher tolerance for cold conditions | Dutch Elm Disease | Street Tree, Riparian/<br>Wet, Park/Open Lawn | None<br>Notable   | Should only plant varieties that have Dutch Elm Disease resistance.              |
| <b>Zelkova serrata</b><br>Japanese Zelkova | 'JFS-KW1'- Compact growth form<br>'Schmidtlow'- Flat top growth form for around utility wires<br>'Green Vase'- Dense growth form     | None<br>Notable   | Street Tree, Park/<br>Open Lawn               | None<br>Notable   | Branch unions can break apart in areas with frequent freeze/thaw cycles.         |

# Michigan Community Tree Species Selection Guide

## Conifer Species List

### Overview

Conifer trees are the species that usually keep their leaves for many years.\* Conifers include the genus for spruce, pine, and fir trees that are not as common in managed landscapes. These species are disproportionately affected by climate change and have a multitude of pests and disease. These trees are usually used for privacy, windbreaks, and screening purposes in communities but can be used for park, drainage, and other areas as well. It is usually not advisable to plant around roadways due to line of sight issues for motorists, cyclists, and pedestrians.

### Limitations

This list was created by compiling species that are available through Michigan nurseries as well as reference materials about tree species that may or may not be readily available in Michigan. Not all of these species will be sold at your local nursery and you should tailor your plantings to what is available. You can always inquire about special ordering species with your local supplier.

Specimen trees, or unique trees usually planted as a landscape highlight, were considered but mostly limited to observed species around Michigan. Just because a species is not on this list doesn't mean it should or should not be planted; consult with your local tree supplier and experts. We tried to be inclusive and have as many choices as possible. Cultivars and other information are not included due to the extensiveness of the previous list and the more restricted usage of conifers in communities.

Conifers can be afflicted by many different pests and diseases. Talk to your local experts about issues present in your area and plant a variety of different species for resilience.

This list is a snapshot of information using the data and knowledge we currently have. As time progresses we will learn more about tree species and their effectiveness in Michigan communities. New invasive species, pests, and disease are introduced every year. Urban and community forestry professionals should continue their educations and be aware of these threats and changes in this guide.

\*Note: The genus *Larix* is an exception that is a deciduous conifer listed in this list. The *Larix* species are not listed in the deciduous list due to use and availability aligning more with the listed conifers.

# Michigan Community Tree Species Selection Guide

## Conifer Species List

| Botanical Name                                  | Common Name(s)                          | Hardiness Zones | Mature Height (Ft.) | Mature Spread (Ft.) | Planting Area | Native Species (MI) | Native Species (US) |
|-------------------------------------------------|-----------------------------------------|-----------------|---------------------|---------------------|---------------|---------------------|---------------------|
| <i>Abies balsamea</i>                           | Balsam Fir                              | 3-5             | 80                  | 40                  | L             | Yes                 | Yes                 |
| <i>Abies balsamea</i> var. <i>phanerolipsis</i> | Canaan Fir                              | 4-7             | 55                  | 25                  | S             | No                  | Yes                 |
| <i>Abies concolor</i>                           | White Fir                               | 3-7             | 80                  | 25                  | L             | Yes                 | Yes                 |
| <i>Abies fraseri</i>                            | Fraser Fir                              | 4-7             | 80                  | 30                  | L             | No                  | Yes                 |
| <i>Abies koreana</i>                            | Korean Fir                              | 5-7             | 35                  | 12                  | M             | No                  | No                  |
| <i>Abies lasiocarpa</i> var. <i>arizonica</i>   | Arizona Corkbark Fir                    | 4-7             | 50                  | 20                  | M             | No                  | Yes                 |
| <i>Chamaecyparis lawsoniana</i>                 | Lawson False cypress/Port-Orford Cedar  | 5-7             | 60                  | 15                  | M             | No                  | Yes                 |
| <i>Chamaecyparis nootkatensis</i>               | Alaskan Cedar                           | 4-8             | 50                  | 20                  | L             | No                  | Yes                 |
| <i>Chamaecyparis obtusa</i>                     | Hinoki False cypress                    | 5-8             | 20                  | 20                  | S             | No                  | No                  |
| <i>Chamaecyparis pisifera</i>                   | Sawara False cypress                    | 5-8             | 35                  | 20                  | L             | No                  | No                  |
| <i>Cryptomeria japonica</i>                     | Japanese Cedar/<br>Japanese Cryptomeria | 5-9             | 60                  | 25                  | L             | No                  | No                  |
| <i>Ilex opaca</i>                               | American Holly                          | 5-9             | 60                  | 25                  | M             | No                  | Yes                 |
| <i>Juniperus scopulorum</i>                     | Rocky Mountain Juniper                  | 3-7             | 40                  | 25                  | M             | No                  | Yes                 |
| <i>Juniperus virginiana</i>                     | Eastern Red Cedar                       | 3-9             | 50                  | 20                  | M             | Yes                 | Yes                 |
| <i>Larix decidua</i>                            | European Larch                          | 3-6             | 75                  | 30                  | M             | No                  | No                  |
| <i>Larix laricina</i>                           | Tamarack/American                       | 2-5             | 80                  | 50                  | M             | Yes                 | Yes                 |
| <i>Larix x eurolepis</i>                        | Dunkeld Larch                           | 4-7             | 90                  | 40                  | L             | No                  | No                  |
| <i>Picea abies</i>                              | Norway Spruce                           | 2-7             | 100                 | 40                  | L             | No                  | No                  |
| <i>Picea glauca</i>                             | White Spruce                            | 2-6             | 60                  | 20                  | M             | Yes                 | Yes                 |
| <i>Picea glauca</i> var. <i>densata</i>         | Black Hills Spruce                      | 3-5             | 40                  | 15                  | M             | No                  | Yes                 |
| <i>Picea mariana</i>                            | Black Spruce                            | 2-6             | 40                  | 20                  | M             | Yes                 | Yes                 |
| <i>Picea omorika</i>                            | Serbian Spruce                          | 4-7             | 50                  | 20                  | S             | No                  | No                  |
| <i>Picea rubens</i>                             | Red Spruce                              | 2-5             | 80                  | 18                  | L             | No                  | Yes                 |
| <i>Pinus aristata</i>                           | Bristlecone Pine                        | 4-7             | 25                  | 15                  | S             | No                  | Yes                 |
| <i>Pinus banksiana</i>                          | Jack Pine                               | 2-6             | 50                  | 20                  | M             | Yes                 | Yes                 |

# Michigan Community Tree Species Selection Guide

## Conifer Species List

| Botanical Name               | Common Name(s)                      | Hardiness Zones | Mature Height (Ft.) | Mature Spread (Ft.) | Planting Area | Native Species (MI) | Native Species (US) |
|------------------------------|-------------------------------------|-----------------|---------------------|---------------------|---------------|---------------------|---------------------|
| <i>Pinus cembra</i>          | Swiss Stone Pine                    | 4-7             | 40                  | 25                  | M             | No                  | No                  |
| <i>Pinus flexilis</i>        | Limber Pine                         | 4-7             | 60                  | 35                  | M             | No                  | Yes                 |
| <i>Pinus koraiensis</i>      | Korean Pine                         | 4-7             | 60                  | 25                  | L             | No                  | No                  |
| <i>Pinus mugo</i>            | Mugo Pine/Swiss                     | 2-7             | 25                  | 30                  | L             | No                  | No                  |
| <i>Pinus parviflora</i>      | Japanese White Pine                 | 4-7             | 50                  | 50                  | L             | No                  | No                  |
| <i>Pinus ponderosa</i>       | Ponderosa Pine                      | 3-7             | 125                 | 30                  | M             | No                  | Yes                 |
| <i>Pinus resinosa</i>        | Red Pine                            | 2-5             | 80                  | 25                  | M             | Yes                 | Yes                 |
| <i>Pinus strobus</i>         | Eastern White Pine                  | 3-8             | 80                  | 40                  | L             | Yes                 | Yes                 |
| <i>Pseudotsuga menziesii</i> | Douglas Fir                         | 4-6             | 80                  | 20                  | M             | No                  | Yes                 |
| <i>Thuja occidentalis</i>    | White Cedar/<br>American Arborvitae | 3-7             | 60                  | 15                  | S             | Yes                 | Yes                 |
| <i>Thuja plicata</i>         | Western Red Cedar                   | 5-7             | 70                  | 25                  | S             | No                  | Yes                 |
| <i>Tsuga canadensis</i>      | Eastern Hemlock                     | 3-7             | 70                  | 35                  | M             | Yes                 | Yes                 |

Evergreen conifers provide air filtration benefits all year round since they retain leaves through the winter.

Pictured: Norway Spruce (right) and Alaskan Cypress (below).



# Michigan Community Tree Species Selection Guide

## Undesirable Species

### Overview

This list includes invasive, potentially invasive and undesirable species. Potentially invasive refers to species not yet classified by the Michigan Department of Agriculture and Rural Development (MDARD) as invasive but which display invasive characteristics. The potentially invasive species should be further studied but it is best not to introduce these to the landscape, just to be safe. This list does not cover every species that is potentially invasive in Michigan, but covers common species from other states within and just south of our climatic zones. Southern hardiness zone species that display invasive characteristics are added onto this list as a precaution even if they are not readily available in the Michigan marketplace at this time. Be wary that some of these undesirable species could be hidden behind cultivar or trade names, so check the tag for a botanical name when purchasing. Refer to MDARD for any restrictions of purchasing, sale, or movement of invasive species. Other species that are not invasive or do not have invasive potential are on this list due to undesirable characteristics for community landscapes.

The photo below was taken on a vacant lot in Detroit. Many species that are invasive or have invasive potential have established themselves including (A) Norway Maple, (B) Siberian Elm, (C) Tree-of-Heaven, and (D) White Mulberry. These trees were probably planted elsewhere and spread to the area through birds or other vectors. It is our responsibility to make sure that neither our managed landscapes and natural areas are not overtaken.



# Michigan Community Tree Species Selection Guide

## Undesirable Species List

| Botanical Name                 | Common Name                               | Justification                       |
|--------------------------------|-------------------------------------------|-------------------------------------|
| <i>Acer campestre</i>          | Hedge Maple                               | Invasive Potential                  |
| <i>Acer ginnala</i>            | Amur Maple                                | Invasive Potential                  |
| <i>Acer negundo</i>            | Boxelder                                  | Not suitable for urban conditions   |
| <i>Acer platinoides</i>        | Norway Maple                              | Invasive Potential                  |
| <i>Acer pseudoplatanus</i>     | Sycamore Maple                            | Invasive Potential                  |
| <i>Acer tataricum</i>          | Tatarian Maple                            | Invasive Potential                  |
| <i>Ailanthus altissima</i>     | Tree-of-Heaven                            | Invasive                            |
| <i>Albezia julibrissen</i>     | Mimosa/Silk Tree                          | Invasive Potential                  |
| <i>Alnus glutinosa</i>         | Black Alder/European Alder                | Invasive Potential                  |
| <i>Betula pendula</i>          | European Birch/Silver Birch               | Invasive Potential                  |
| <i>Caragana arborescens</i>    | Siberian Peashrub/Siberian Pea-Tree       | Invasive Potential                  |
| <i>Crataegus laevigata</i>     | English Hawthorn                          | Invasive Potential                  |
| <i>Elaeagnus angustifolia</i>  | Russian Olive/Silverberry                 | Invasive Potential                  |
| <i>Evodia danielii</i>         | Korean Evodia/Bebe Tree                   | Invasive Potential                  |
| <i>Fraxinus</i> spp.           | Ash                                       | Mortality from Emerald Ash Borer    |
| <i>Hibiscus syriacus</i>       | Rose-of-Sharon/Althea                     | Invasive Potential                  |
| <i>Ilex aquifolium</i>         | English Holly                             | Invasive Potential                  |
| <i>Koelreuteria paniculata</i> | Goldenrain Tree                           | Invasive Potential                  |
| <i>Lagerstroemia indica</i>    | Crape Myrtle/Crepe Myrtle                 | Invasive Potential                  |
| <i>Morus alba</i>              | White Mulberry                            | Invasive Potential                  |
| <i>Paulownia tomentosa</i>     | Empress Tree/Royal Paulownia              | Invasive Potential                  |
| <i>Phellodendron amurense</i>  | Amur Cork Tree                            | Invasive Potential                  |
| <i>Picea pungens</i>           | Colorado Blue Spruce                      | Disease issues                      |
| <i>Pinus nigra</i>             | Austrian Pine/Black Pine                  | Invasive Potential, Disease issues  |
| <i>Pinus sylvestris</i>        | Scotch Pine/Scot's Pine                   | Invasive Potential, Disease issues  |
| <i>Pistacia chinensis</i>      | Chinese pistache                          | Invasive Potential                  |
| <i>Populus alba</i>            | White Poplar                              | Invasive Potential                  |
| <i>Prunus avium</i>            | Sweet Cherry/Mazzard Cherry               | Invasive Potential                  |
| <i>Prunus mahaleb</i>          | St. Lucie Cherry                          | Invasive Potential                  |
| <i>Pterocarya stenoptera</i>   | Wingnut                                   | Invasive Potential                  |
| <i>Pyrus calleryana</i>        | Callery Pear                              | Invasive, Disease issues, Weak Wood |
| <i>Quercus acutissima</i>      | Sawtooth Oak                              | Invasive Potential                  |
| <i>Robinia pseudoacacia</i>    | Black Locust                              | Invasive                            |
| <i>Salix alba</i>              | White Willow                              | Invasive Potential                  |
| <i>Styphnolobium japonicum</i> | Japanese Pagoda Tree/Chinese Scholar Tree | Invasive Potential                  |
| <i>Syringa reticulata</i>      | Japanese Tree Lilac                       | Invasive Potential                  |
| <i>Ulmus parvifolia</i>        | Lacebark Elm/Chinese Elm                  | Invasive Potential                  |
| <i>Ulmus pumila</i>            | Siberian Elm                              | Invasive Potential                  |

# Michigan Community Tree Species Selection Guide

## Resources

### Expert Resources

Michigan Department of Natural Resources Urban and Community Forestry Program: [Michigan.gov/UCF](https://Michigan.gov/UCF)

Michigan Department of Agriculture and Rural Development: [michigan.gov/mdard/plant-pest/plant-health/invasive-species](https://michigan.gov/mdard/plant-pest/plant-health/invasive-species)

International Society of Arboriculture Michigan: [Asm-isa.org](https://Asm-isa.org)

Michigan Green Industry Association: [Landscape.org](https://Landscape.org)

Michigan Nursery and Landscape Association: [MNLA.org](https://MNLA.org)

Michigan State University Extension: [Canr.MSU.edu](https://Canr.MSU.edu)

Michigan CISMAs: [Michigan's Cooperative Invasive Species Management Areas](https://Michigan's%20Cooperative%20Invasive%20Species%20Management%20Areas)

### Tools

i-Tree Benefits: [Itreetools.org](https://Itreetools.org)

Tree Equity Score: [Treeequityscore.org](https://Treeequityscore.org)

Urban Tree Canopy Data: [Treecanopy.us](https://Treecanopy.us)

Google Environmental Insights Explorer: [Insights.sustainability.google](https://Insights.sustainability.google)

### Planting and Maintenance

USDA Tree Owner's Manual: [fs.usda.gov/Internet/FSE\\_DOCUMENTS/stelprdb5368392.pdf](https://fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5368392.pdf)

ReLeaf Michigan: [Releafmichigan.org](https://Releafmichigan.org)

MI Trees Planting Tracker: [michigan.gov/dnr/managing-resources/forestry/mi-trees](https://michigan.gov/dnr/managing-resources/forestry/mi-trees)

Vegetation Barrier Toolkit: [chicagorti.org/app/uploads/2023/04/22CRTI\\_Vegetative-Barrier-Toolkit\\_0425.pdf](https://chicagorti.org/app/uploads/2023/04/22CRTI_Vegetative-Barrier-Toolkit_0425.pdf)

Michigan Department of Transportation Vegetation Management: [michigan.gov/mdot/business/permits/right-of-way-construction/billboard-vegetation-removal-trimming](https://michigan.gov/mdot/business/permits/right-of-way-construction/billboard-vegetation-removal-trimming)

DTE Energy Tree Maintenance: [dteenergy.com/us/en/residential/service-request/system-improvements/tree-trimming.html](https://dteenergy.com/us/en/residential/service-request/system-improvements/tree-trimming.html)

Consumers Energy Tree Maintenance: [consumersenergy.com/outages-and-safety/trees-and-power-lines](https://consumersenergy.com/outages-and-safety/trees-and-power-lines)

Toronto Green Standard: [www.toronto.ca/city-government/planning-development/official-plan-guidelines/toronto-green-standard/toronto-green-standard-version-3/mid-to-high-rise-residential-all-non-residential-version-3/ecology-for](https://www.toronto.ca/city-government/planning-development/official-plan-guidelines/toronto-green-standard/toronto-green-standard-version-3/mid-to-high-rise-residential-all-non-residential-version-3/ecology-for)

[-mid-to-high-rise-residential-all-non-residential/](https://fs.usda.gov/nrs/atlas/tree/mid-to-high-rise-residential-all-non-residential/)

### Services

MISS DIG 811: [Missdig811.org](https://Missdig811.org)

Michigan State University Plant and Pest Diagnostics: [www.canr.msu.edu/pestid/](https://www.canr.msu.edu/pestid/)

Michigan State University Soil Testing: [homesoiltest.msu.edu](https://homesoiltest.msu.edu)

### Climate Adaptation Information

Detroit Tree Species Vulnerability: [https://forestadaptation.org/sites/default/files/2021-03/DetroitMI\\_TreeSpeciesVulnerability.pdf](https://forestadaptation.org/sites/default/files/2021-03/DetroitMI_TreeSpeciesVulnerability.pdf)

Future Cold Hardiness Zones Tool: [climatetoolbox.org/tool/Future-Cold-Hardiness-Zones](https://climatetoolbox.org/tool/Future-Cold-Hardiness-Zones)

Climate Change Tree Atlas: [fs.usda.gov/nrs/atlas/tree/](https://fs.usda.gov/nrs/atlas/tree/)

Climate Change Response Framework: [forestadaptation.org/assess/ecosystem-vulnerability/urban](https://forestadaptation.org/assess/ecosystem-vulnerability/urban)

Vibrant Cities Lab Toolkit: [Vibrantcitieslab.com/toolkit/](https://Vibrantcitieslab.com/toolkit/)

# Michigan Community Tree Species Selection Guide

## Glossary

**Arborist:** Specially trained professional who deals with the art and science of planting, caring for, maintaining, and diagnosing trees and other woody plant life.

**Assisted migration:** The human-assisted relocation of species beyond their historic range when they are unable to move or adapt fast enough in response to climate change.

**Canopy:** The layer of leaves and branches from trees that cover the ground from a top-down view. Usually expressed as a percentage of an area.

**Catkin:** A cluster of tiny flowers that forms a long, skinny, caterpillar-like shape.

**Climate adaptation:** The ability of a species to survive changes in climate.

**Climate change:** The long-term change in the average weather patterns that have come to define local, regional, and global climates.

**Deciduous:** Trees and shrubs that lose their leaves or needles in the fall.

**Drupe:** A fleshy fruit with thin skin and a central stone containing the seed.

**Genus:** The principal taxonomic category that ranks below family and above species.

**Growth form:** The shape or outline of the top of the tree.

**Invasive:** A species whose introduction causes economic or environmental harm. Tend to spread quickly and aggressively to outcompete native species for food and habitat.

**Managed landscape:** Environments that are managed by humans and have features of both constructed and natural environments.

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

**Nut:** A fruit consisting of a hard or tough shell around a kernel.

**Prohibited species:** Species that local law or ordinances prohibit to be planted. Check with MDARD and your local official departments.

**Riparian:** Relating to or situated on the banks of a river or wetland adjacent to rivers and streams.

**Samara:** Thin, papery “wings” attached to a seed, sometimes called helicopters because of how they fall.

**Seed pod:** The shell or covering that contains a tree’s seeds. Could be considered ornamental or a nuisance.

**Species:** a group subordinate to a genus and containing individuals agreeing in some common attributes and called by a common name.

**Species suitability:** The quality of how appropriate a species is for a particular situation or area.

**Taproot:** The large, central root of a plant that grows vertically downward which smaller lateral roots branch out.

**Taxonomy:** The system of the classification of organisms into seven levels from domain to species.

**Tree board:** A usually volunteer-led board that advises its community about tree issues, concerns, and management.

**Tree crown:** The branches and leaves that form the top of the tree.

**Tree inventory:** An inventory of an area, usual by municipality, of the location, species and sometimes quality of trees.

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## References

- Gilman, E. F. (1997). *Trees for urban and sub-urban landscapes*. Delmar Publishers.
- Dirr, M. (1998). *Manual of woody landscape plants: their identification, ornamental characteristics, culture, propagation and uses*. Stipes Publishing.
- Phillips, L. E. (1993). *Urban Trees*. McGraw-Hill Companies.
- Barnes, B. V., & Wagner, W. H. (2004). *Michigan Trees, Revised and Updated*. University of MICHIGAN REGIONAL.
- *Detroit|Climate Change Response Framework*. (n.d.). Forestadaptation.org. <https://forestadaptation.org/assess/ecosystem-vulnerability/urban/detroit>
- *Urban Forests|Climate Change Response Framework*. (n.d.). Forestadaptation.org. <https://forestadaptation.org/assess/ecosystem-vulnerability/urban>
- *Plants|NC State University*. (2019). Ncsu.edu. <https://plants.ces.ncsu.edu/>
- *Search Trees and Plants*. (n.d.). The Morton Arboretum. <https://mortonarb.org/plant-and-protect/search-trees-and-plants/>
- *Natural Resources Conservation Service*. (2025, January 14). Natural Resources Conservation Service. [www.nrcs.usda.gov/state-offices/michigan](http://www.nrcs.usda.gov/state-offices/michigan)
- *Urban Forestry Outreach and Research (UFOR) | The UFOR Nursery & Lab*. (2025). Umn.edu. <https://trees.umn.edu/>
- *Smart Tree Tip Sheets*. (2025). Gardening in Michigan. [www.canr.msu.edu/home\\_gardening/trees-shrubs/selection](http://www.canr.msu.edu/home_gardening/trees-shrubs/selection)
- Missouri Botanical Garden. (2019). *Plant Finder*. [Missouribotanicalgarden.org](http://Missouribotanicalgarden.org). [www.missouribotanicalgarden.org/PlantFinder/PlantFinderSearch.aspx](http://www.missouribotanicalgarden.org/PlantFinder/PlantFinderSearch.aspx)
- *Invasive Plant Atlas of the United States - Database of Plants Invading Natural Areas: Invasive Plant Atlas of the United States*. (n.d.). [www.invasiveplantatlas.org](http://www.invasiveplantatlas.org).
- *Invasive Plants in West Virginia*. (n.d.). West Virginia Division of Natural Resources. [wvdnr.gov/plants-animals/exotic-and-invasive-species/invasive-plants-in-west-virginia/](http://wvdnr.gov/plants-animals/exotic-and-invasive-species/invasive-plants-in-west-virginia/)
- *VERMONT TREE SELECTION GUIDE: A list of suitable species for managed landscapes in residential and urban settings*. (n.d.). [vtcommunityforestry.org/sites/default/files/2022-11/complete-vt-tree-selection-guide-2022.pdf](http://vtcommunityforestry.org/sites/default/files/2022-11/complete-vt-tree-selection-guide-2022.pdf)
- *Ash Replacements for Urban and Woodland Plantings Bulletin 924*. (2005) Ohio State University Extension