



MICHIGAN COMMUNITY TREE SPECIES SELECTION GUIDE



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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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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 RAS
- **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
- **Dr. Bert Cregg**– Michigan State University
- **Dr. 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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MiCoTSS was developed without any use of AI or AI based tools.

MI 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 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 more 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. MiCoTSS 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, MiCoTSS 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.



MI 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, they 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 in 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 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

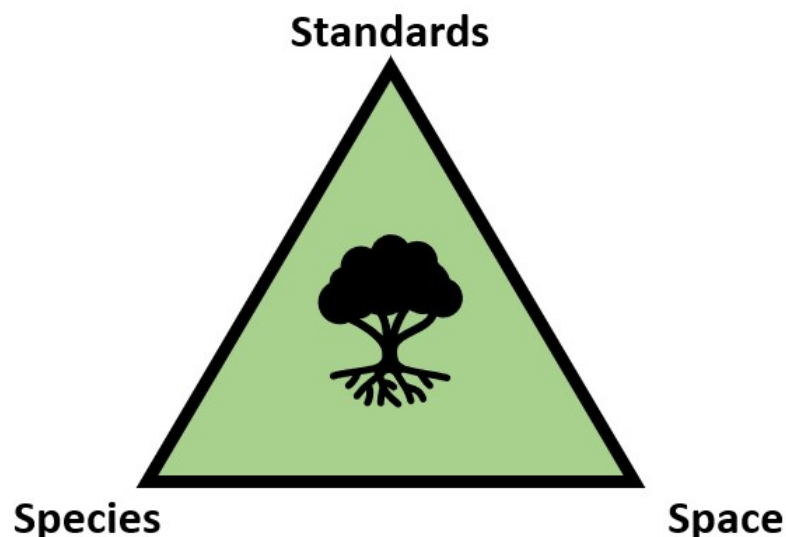
Three core characteristics will support long-term tree success:

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.



MI 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 species planted 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 to be planted in the community.

Collaborate with local experts

Consult certified arborists, landscape professionals, and local tree boards. Use MiCoTSS 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.



MI 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.

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 Natives and Non-Natives

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 to prevent the 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 and guidance and best practices will evolve over time.



MI Community Tree Species Selection Guide

Benefits of Trees

A tree provides many benefits to the space 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 long-term health and success of trees in the same manner we plan for road, sewer, and utility infrastructure. The benefits with trees increase over time which makes it a rare instance of appreciating infrastructure. The long term planning and responsibility of trees should be considered and understood before planting.

Economic Benefits

- Stabilize property values
- Encourage patronage of downtown retail and tourism
- Increased spending in shaded commercial districts
- Reduced energy costs
- 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 mental health of residents
- Increase public health through filtration of air and water
- Slow traffic when planted near roadways
- Improve community aesthetics



Aesthetics

- Provide color, flowers, or fruit
- Compliment 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

MI 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 like 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 temperature moderating effect of the Great Lakes, coastal areas adjacent to the lakes tend to be buffered from temperature extremes and allow for a greater range and number of species to be planted.

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

Our 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. For example, from current climate models, it is estimated 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 should be planted in order to be able to adapt better to those changes. Climate change disproportionately benefit invasive species, pests, and diseases over our native trees. We can increase resilience to these changes by assisting migration of species currently present in adjacent warmer climates into our managed landscapes that are better adapted.

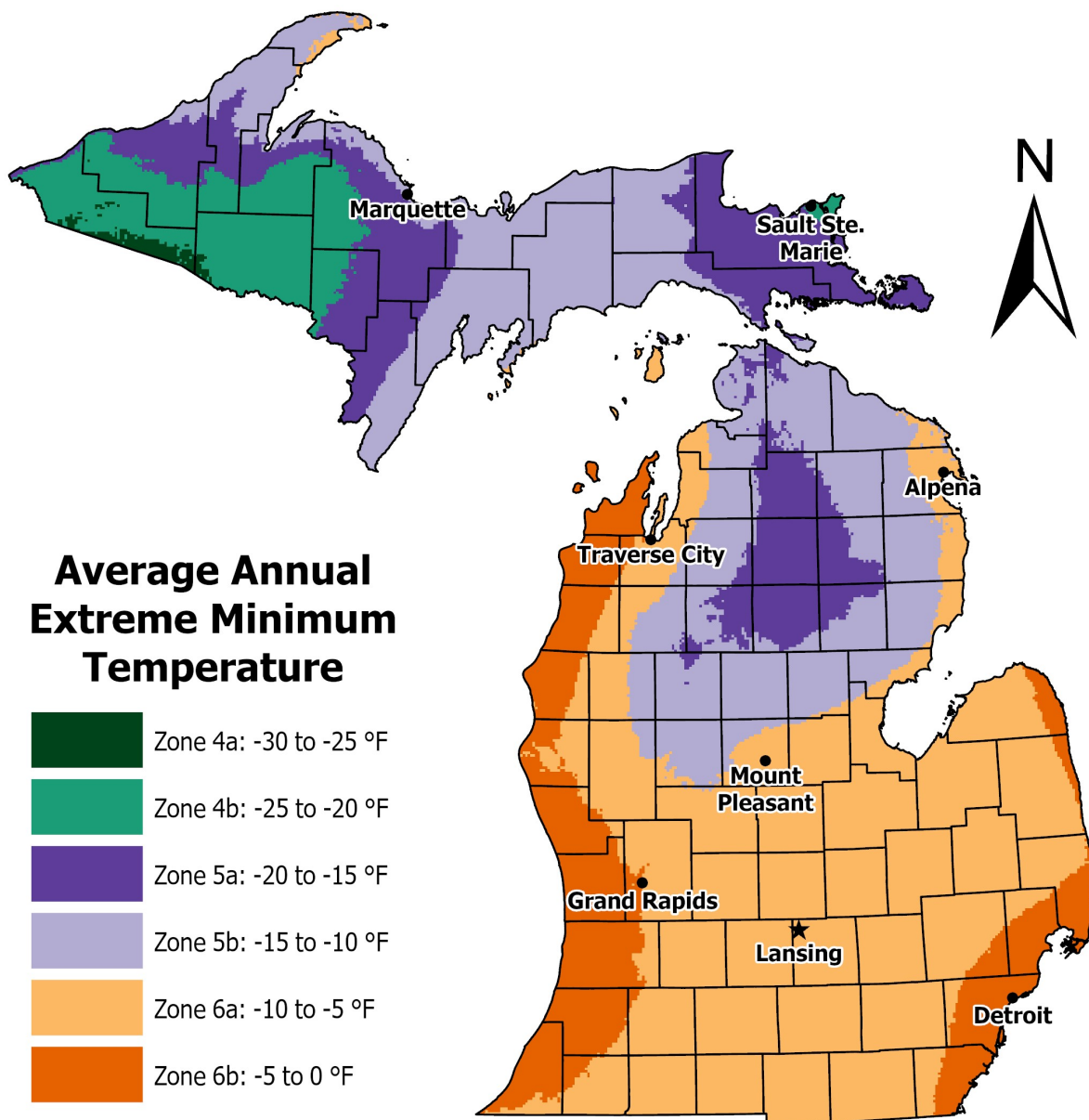
Compatible Use Conflicts

When planting close to roadways, sidewalks, and businesses you should consider the mature height, spread, and form of the tree. While some businesses might take issue with trees blocking their signage, there is no evidence to support drop in business due to trees and in fact there is evidence of higher foot traffic. It is important to take 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.

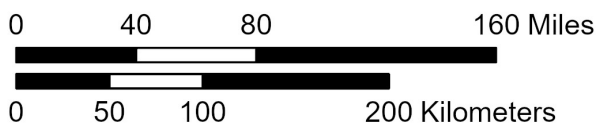




2025 Michigan Plant Hardiness Zones



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



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Soil Considerations

The success of a tree is largely determined by the health of its root system. They 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 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 are able to 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 have 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 on putting 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 the compacted soil with an air spade or other tools. A good rule of thumb is that if there isn't grass growing in an area, it wouldn't be 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 can support 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 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 by other equipment.

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Site 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.

To obtain an accurate measure of soil nutrient content and pH contact your nearest MSU Extension office to purchase a Home Lawn and Garden Soil Test Mailer or purchase online at:
<https://shop.msu.edu/products/soil-test-mailer>

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. Tree species with a higher salt tolerance should be selected for planting near areas that will likely receive regular salting. Trees within 25 feet of a regularly salted road, sidewalk, or parking lot are most susceptible. Planting further 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.

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

MI Community Tree Species Selection Guide

Above Ground Considerations

Utilities

When planting, take into account the utilities in the area above and below ground. Always call MISS DIG at 811 to mark any underground utilities at least 3 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.

Powerlines and above ground utilities compete with trees for canopy space. Branches around powerlines present a risk to safety and utility service causing 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.

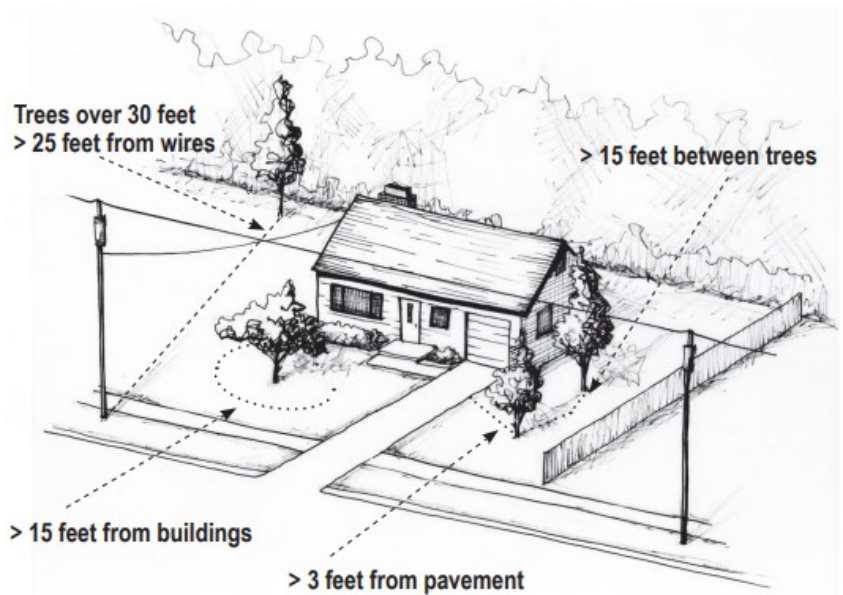


Spacing

Reference 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 increases competition between them causing a more upright form. Trees planted 40 to 60 feet will grow wider due to availability of space and light.

Plant trees at least 15 feet from buildings and ideally 3 feet from pavement. Trees that are properly planted have a lower chance of 'buckling' pavement. 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.

While it is possible for a tree to live if adequate water access and drainage, no tree should be planted 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' so that trees can assist each other through their roots in resource sharing.



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

MI Community Tree Species Selection Guide

Long-Term Sustainability

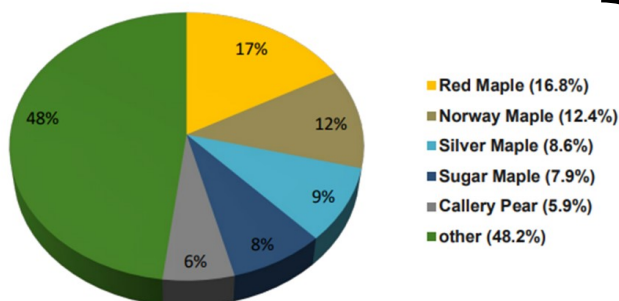
Prioritize Characteristics

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 high level of species variety 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 a wide variety of species are better adapted to climate change, see increased benefits than 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 level of 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 were learned by the introduction of Dutch Elm Disease in the 1930's 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 resulting in a monoculture (single species) dominated landscape. The monoculture of elm and ash species allowed Dutch elm disease and the emerald ash borer to spread quickly, resulting in mass mortality events with municipalities and landowners bearing the cost of the removal and replacement of millions of trees. There are always new introductions of insects, fungus, and other vectors of tree mortality that are in play and 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 with more vertical growth occurring 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 their 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 balance is achieved.

MI Community Tree Species Selection Guide

Native, Non-Native and Invasive Species

Trees native to Michigan are species indigenous to Michigan before 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 Baldcypress (*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 consultation with experts is advised before introducing a new species.

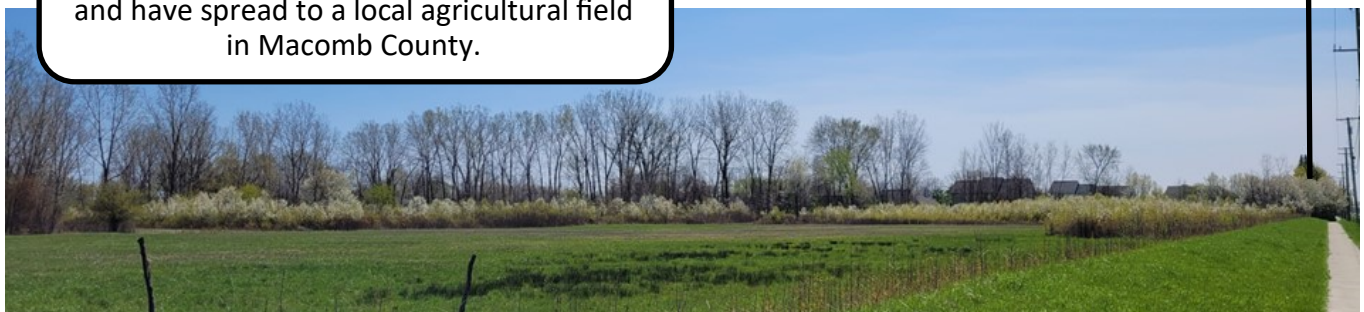
Potentially Invasive Trees

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 several non-native trees have aggressive growth habits that result in their invasion into natural areas like wetlands and woodlands. Once established, these invasive exotic plant species can significantly disrupt habitats and ecosystem processes. Removal of 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 prone to pest or disease vulnerability 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 invasive species be planted in your landscape. Most invasive species are planted because they 'grow quickly', 'look nice', or ignorance of invasive characteristics. Invasive species offer little to no ecological or economic benefits to the landscape. These species spread quickly through seeds or root suckers and outcompete native vegetation.

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.



MI Community Tree Species Selection Guide

Tree Purchasing Considerations

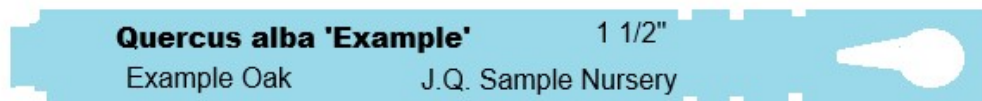
Understanding Tree Species Names

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— 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.



Tree Stock Selection when Purchasing

Purchase stock from a reputable, state licensed nursery. Resources for state licensed nurseries and landscape professionals are in the resources section. It is recommended planting trees between 1.5 to 2.5 inches in trunk diameter but can be smaller or larger based on project specifics. Keep the below 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 B&B trees. Requires more root preparation when planting by shaving off girdling or circling roots.
 - **Balled and Burlap (B&B)**- Usually larger and heavier trees but 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 are 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 and return them for a replacement or refund.

MI Community Tree Species Selection Guide

Species List Definitions

MiCoTSS Rating

A rating unique to this guide that takes into account a variety of 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 (MI)

A species that was developed and evolved in Michigan and was present prior to European settlement.

Native (US)

A species that was developed and evolved in the United States and was present prior to European settlement.

Climate Adaptability

A five tier scale from 'Very Low' to 'Very High' of how well a species is predicted to adapt to climate change and/or expand their planting range. Disclaimer that the data used for this category is tailored to the Metro Detroit area and becomes unreliable when applied elsewhere.

Hardiness Zones

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

Mature Height and Spread (Feet)

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

Notable Cultivars

Listing 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 they have and their benefit. There might be a cultivar available even if there is 'None' in the category for a species.

Health Concerns

The health concerns listed within this guide are ones 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 effect the tree if present. You can always test your tree by sending in samples to the Michigan State University Plant Diagnostics Lab which is found on the resources page of this guide.

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.

MI Community Tree Species Selection Guide

Species List Categories

Form

The general shape or structure of the species. Categorized into:

- Upright Oval
- Round
- Spreading
- Pyramidal
- Columnar
- Vase
- Various– Species could display multiple forms usually depending on cultivar

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 Planting Area (Square Feet)	Mature Tree Size (Height in Feet)
Small (S)	5ft	50-100	<30ft
Medium (M)	6ft	100-200	30-50ft
Large (L)	7ft	>200	>50ft

Site Usage

Common and ideal sites for species categorized below:

- **Street Tree**– Sites near roadways, rights-of-way, medians, tree lawns, and parking lots.
- **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. Friendly species based off of DTE Energy and Consumers Energy standards for tree planting and maintenance around powerlines.

Site Tolerances

Common stressors that species may or may not tolerate. 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 lack pore space within the site soil 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

Flower/Fruit/Seed Interest

Presence of different flowers, fruit, and seed that could be of value or inconvenience.

MI Community Tree Species Selection Guide

Deciduous Species List

Overview

Deciduous trees are the species that drop their leaves annually and are sometimes also referred to as broadleaf trees*. They are commonly preferred by communities because of their wide variety and availability. Their dormancy 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 an 'At a Glance' section and the expanded deciduous species list proper. The 'At a Glance' section is in alphabetical order by common name and includes the botanical name and MiCoTSS rating. The full deciduous species list that follows is in alphabetical order by botanical name.

Limitations

This list was created by compiling species that may be available through Michigan nurseries as well as a lot of 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 planted usually as a landscape highlight, were considered 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 and consultation with your local tree supplier and experts is recommended. We tried to be inclusive and have as many choices as possible to choose from but some are rare and not as utilitarian as other species selected.

There are many cultivars left out of this guide that could provide advantageous value for trees in community areas. Species like Japanese Maple have thousands of cultivars with varying availability from tree nursery to tree nursery so the decision was made to limit to up to three per species. Some that don't have a cultivar listed could have one that would be of a benefit of you so refer to your supplier and tree experts for more insight.

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 education 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.

MI 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
Baldcypress	<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 sergentii</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, Corneliancherry	<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

MI 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
Honolocust, 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

MI Community Tree Species Selection Guide

Deciduous Species at a Glance

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

MI Community Tree Species Selection Guide

Deciduous Species at a Glance

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

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
Acer rubrum	3	Yes	Yes	Moderate	3-9	Upright Oval	70	50	L	I	T	I	I	T	T
Red Maple	Notable Cultivars: 'Autumn Spire'- Columnar growth form with higher tolerance to urban conditions 'Redpointe'- Higher tolerance of alkaline soils, resistant to fungal diseases/chlorosis 'Red Sunset'- Higher heat tolerance			Health Concerns: None Notable		Site Usage: Street Tree Riparian/Wet Park/Open Lawn				Flower/Fruit/Seed: Samara					
Other Notes: MiCoTTS Rating is lower due to high representation of maples in Michigan canopies.															
Acer saccharinum	1	Yes	Yes	Low	3-9	Spreading	80	60	L	I	T	I	I	N	T
Silver Maple	Notable Cultivars: None Notable			Health Concerns: None Notable		Site Usage: Riparian/Wet Park/Open Lawn				Flower/Fruit/Seed: Samara					
Other Notes: Used to be planted in communities due to high growth rate. Is not planted anymore due to weak wood and shallow root system. Should only be planted near bodies of water and open park areas. MiCoTTS Rating is lower due to high representation of maples in Michigan canopies.															
Acer saccharum	3	Yes	Yes	Moderate	4-8	Upright Oval	75	50	L	I	T	N	I	T	T
Sugar Maple	Notable Cultivars: 'Apollo'- Columnar growth form with higher heat resistance 'Powder Keg'- Better tolerance to heat, drought, and tough growing conditions 'Unity'- Better tolerance for cold climates and resists frost cracking in bark			Health Concerns: None Notable		Site Usage: Street Tree Riparian/Wet Park/Open Lawn				Flower/Fruit/Seed: Samara					
Other Notes: Not usually used for street trees except in cool areas with shade. MiCoTTS Rating is lower due to high representation of maples in Michigan canopies.															
Acer x freemanii	3	No	No	Moderate	3-7	Upright Oval	70	45	M	N	T	I	N	T	T
Freeman Maple	Notable Cultivars: Various, more cultivars than any other tree species			Health Concerns: Frost Damage		Site Usage: Street Tree Riparian/Wet Park/Open Lawn				Flower/Fruit/Seed: Samara					
Other Notes: 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. MiCoTTS Rating is lower due to high representation of maples in Michigan canopies.															

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	
Aesculus flava	3	No	Yes	Moderate	4-8	Upright Oval	70	35	L	N	N	N	N	N	N	N
Yellow Buckeye	Notable Cultivars: 'Apollo'- Columnar growth form with higher heat resistance 'Powder Keg'- Higher tolerance to heat, drought, and tough growing conditions 'Unity'- Higher cold tolerance, resists frost cracking in bark			Health Concerns: Guignardia Leaf Blotch, Anthracnose		Site Usage: Park/Open Lawn				Flower/Fruit/Seed: Flowers, Seed Pod, Nut						
Other Notes: Seeds harmful if ingested.																
Aesculus glabra	5	Yes	Yes	Moderate	4-8	Round	45	40	L	N	T	I	T	I	N	
Ohio Buckeye	Notable Cultivars: 'JN Select'- Scorch resistant foliage, less fruit production			Health Concerns: Guignardia Leaf Blotch, Anthracnose		Site Usage: Park/Open Lawn				Flower/Fruit/Seed: Flowers, Seed Pod, Nut						
Other Notes: None																
Aesculus hippocastanum	3	No	Yes	Moderate	3-8	Upright Oval	75	65	L	N	N	N	N	T	I	
Common Horsechestnut	Notable Cultivars: None			Health Concerns: Guignardia Leaf Blotch, Anthracnose		Site Usage: Park/Open Lawn				Flower/Fruit/Seed: Flowers, Seed Pod, Nut						
Other Notes: None																
Aesculus parviflora	3	No	Yes	Moderate	4-8	Round	12	15	S	I	N	N	N	T	T	
Bottlebrush Buckeye	Notable Cultivars: None			Health Concerns: Guignardia Leaf Blotch, Anthracnose		Site Usage: Park/Open Lawn Overhead Utility Friendly				Flower/Fruit/Seed: Flowers, Seed Pod, Nuts						
Other Notes: None																
Aesculus x arnoldiana	6	No	No	Moderate	4-8	Round	25	25	M	I	N	T	T	T	T	
Arnold Buckeye	Notable Cultivars: 'Autumn Splendor'- Resistant to leaf scorch			Health Concerns: Guignardia Leaf Blotch, Anthracnose		Site Usage: Park/Open Lawn Overhead Utility Friendly				Flower/Fruit/Seed: Samara						
Other Notes: None																

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
Aesculus x carnea	5	No	No	Moderate	5-8	Pyramidal	40	40	M	N	N	N	N	T	N
Red Horsechestnut	Notable Cultivars: 'Briotii'- Slight scorch resistance, compact growth habit 'Ft. McNair'- Columnar growth habit			Health Concerns: Guignardia Leaf Blotch, Anthracnose		Site Usage: Park/Open Lawn				Flower/Fruit/Seed: Flowers, Seed Pod, Nut					
Other Notes: None															
Alnus incana subsp. Rugosa	6	Yes	Yes	Moderate	2-6	Vase	25	25	S	I	T	N	N	N	T
Speckled Alder	Notable Cultivars: None			Health Concerns: None Notable		Site Usage: Riparian/Wet Overhead Utility Friendly				Flower/Fruit/Seed: Catkins					
Other Notes: Ideal for drainage areas															
Alnus serrulata	5	No	Yes	Unknown	4-9	Round	20	15	S	I	T	T	N	N	I
Smooth Alder/ Hazel Alder	Notable Cultivars: None			Health Concerns: None Notable		Site Usage: Riparian/Wet Overhead Utility Friendly				Flower/Fruit/Seed: Catkins					
Other Notes: Ideal for drainage areas															
Amelanchier alnifolia	7	No	Yes	High	4-5	Round	8	8	S	N	T	N	T	I	N
Saskatoon Serviceberry	Notable Cultivars: None			Health Concerns: Japanese Beetle		Site Usage: Riparian/Wet Park/Open Lawn Overhead Utility Friendly				Flower/Fruit/Seed: Flowers, Berry, Fruit;edible					
Other Notes: More of a shrub. Highest berry producer of Amelanchier species.															
Amelanchier arborea	8	Yes	Yes	Very High	4-9	Round	25	25	S	N	N	N	N	I	N
Downy Serviceberry/ Juneberry	Notable Cultivars: 'Autumn Sunset'- Higher heat and drought tolerance			Health Concerns: Japanese Beetle		Site Usage: Street Tree Park/Open Lawn Overhead Utility Friendly				Flower/Fruit/Seed: Flowers, Berry, Fruit;edible					
Other Notes: None															
Amelanchier canadensis	8	Yes	Yes	High	3-7	Round	25	25	S	N	T	N	N	I	N
Shadblow Serviceberry/ Canada Serviceberry	Notable Cultivars: 'Glenform'- Upright growth habit			Health Concerns: Japanese Beetle		Site Usage: Street Tree Riparian/Wet Park/Open Lawn Overhead Utility Friendly				Flower/Fruit/Seed: Flowers, Berry, Fruit;edible					
Other Notes: None															

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
Amelanchier laevis	8	No	Yes	Very High	4-8	Round	25	25	S	N	N	T	N	I	N
Allegheny Serviceberry	Notable Cultivars: 'Snowcloud'- Better form and tolerance to urban conditions			Health Concerns: Japanese Beetle		Site Usage: Street Tree Park/Open Lawn Overhead Utility Friendly			Flower/Fruit/Seed: Flowers, Berry, Fruit;edible						
Other Notes: None															
Amelanchier x grandiflora	7	No	No	Moderate	4-9	Round	25	25	S	T	N	T	N	I	T
Apple Serviceberry	Notable Cultivars: 'Robin Hill'- Higher tolerance to urban conditions, produces less fruit			Health Concerns: Japanese Beetle		Site Usage: Street Tree Park/Open Lawn Overhead Utility Friendly			Flower/Fruit/Seed: Flowers, Berry, Fruit;edible						
Other Notes: Heavy berry producer.															
Asimina triloba	4	Yes	Yes	Moderate	5-9	Pyramidal	30	30	M	N	N	I	N	N	N
Pawpaw/ Custard Apple	Notable Cultivars: 'Davis'- Keeps fruit well in the cold			Health Concerns: None Notable		Site Usage: Riparian/Wet Park/Open Lawn			Flower/Fruit/Seed: Fruit;edible						
Other Notes: Coveted for its edible fruit. Spreads clonally through root system.															
Betula alleghaniensis	6	Yes	Yes	High	3-7	Round	65	60	M	I	T	N	N	N	N
Yellow Birch	Notable Cultivars: None			Health Concerns: Bronze Birch Borer		Site Usage: Riparian/Wet Park/Open Lawn			Flower/Fruit/Seed: Catkins						
Other Notes: More of a shrub. Highest berry producer of Amelanchier species.															
Betula nigra	9	Yes	Yes	High	4-9	Upright Oval	40	30	S	N	T	I	N	T	N
River Birch	Notable Cultivars: 'Little King'- Dwarf variety for compact spaces 'Dura Heat'- Higher heat tolerance 'Heritage'- Higher heat tolerance			Health Concerns: Bronze Birch Borer		Site Usage: Street Tree Riparian/Wet Park/Open Lawn			Flower/Fruit/Seed: Catkins						
Other Notes: None															
Betula papyrifera	6	Yes	Yes	Moderate	2-7	Upright Oval	55	35	M	I	N	N	N	N	N
Paper Birch	Notable Cultivars: 'Renci'- Resists Bronze Birch Borer damage 'Varen'- Higher tolerance to urban conditions			Health Concerns: Bronze Birch Borer		Site Usage: Riparian/Wet Park/Open Lawn			Flower/Fruit/Seed: Catkins						
Other Notes: None															

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
Betula platyphylla	3	No	No	Unknown	3-7	Pyramidal	40	25	S	I	N	N	N	N	N
Japanese White Birch	Notable Cultivars: 'Fargo'- Columnar growth form with high wind tolerance 'Jefpark'- Higher tolerance to urban conditions			Health Concerns: Bronze Birch Borer		Site Usage: Street Tree Park/Open Lawn				Flower/Fruit/Seed: Catkins					
Other Notes: None															
Betula populifolia	2	No	Yes	Very Low	3-7	Pyramidal	40	20	M	I	T	N	N	N	I
Gray Birch	Notable Cultivars: None			Health Concerns: Bronze Birch Borer		Site Usage: Riparian/Wet				Flower/Fruit/Seed: Catkins					
Other Notes: Very susceptible to climate change effects.															
Carpinus betulus	6	No	No	Moderate	4-8	Various	40	30	S	N	N	T	I	T	N
European Hornbeam	Notable Cultivars: 'JFS-KW1CB'- Pyramidal growth form, higher heat tolerance 'Frans Fontaine'- Narrow growth form			Health Concerns: None Notable		Site Usage: Street Tree Park/Open Lawn				Flower/Fruit/Seed: Catkins					
Other Notes: None															
Carpinus caroliniana	10	Yes	Yes	Very High	3-9	Various	30	30	S	N	N	N	I	T	T
American Hornbeam/ Musclewood/ Blue Beech	Notable Cultivars: 'Uxbridge'- Higher tolerance to urban conditions 'CCSQU'- Dense growth form 'JN Strain'- Higher tolerance to clay and alkaline soils			Health Concerns: Bronze Birch Borer		Site Usage: Street Tree Riparian/Wet Park/Open Lawn Overhead Utility Friendly				Flower/Fruit/Seed: Catkins					
Other Notes: Attractive bark and availability in single stem or multiple stem variants make this tree a solid choice.															
Carya cardiformis	7	Yes	Yes	High	4-9	Upright Oval	70	45	L	N	N	N	I	T	T
Bitternut Hickory/ Swamp Hickory	Notable Cultivars: None			Health Concerns: None Notable		Site Usage: Riparian/Wet Park/Open Lawn				Flower/Fruit/Seed: Nut					
Other Notes: Deep taproot.															
Carya glabra	5	Yes	Yes	Moderate	4-9	Upright Oval	65	40	L	T	N	N	I	T	T
Pignut Hickory	Notable Cultivars: None			Health Concerns: None Notable		Site Usage: Park/Open Lawn				Flower/Fruit/Seed: Nut					
Other Notes: Deep taproot.															

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	
Carya illinoensis	4	No	Yes	Unknown	5-9	Upright Oval	75	40	L	T	I	T	N	N	N	
Hardy Pecan	Notable Cultivars: None			Health Concerns: Various pests and disease		Site Usage: Park/Open Lawn				Flower/Fruit/Seed: Nut						
Other Notes: Deep taproot.																
Carya laciniosa	5	Yes	Yes	Moderate	4-9	Upright Oval	75	55	L	I	N	I	I	T	T	
Shellbark Hickory	Notable Cultivars: None			Health Concerns: None Notable		Site Usage: Riparian/Wet Park/Open Lawn				Flower/Fruit/Seed: Nut						
Other Notes: Deep taproot.																
Carya ovata	4	Yes	Yes	Very Low	4-9	Upright Oval	70	45	L	T	N	N	I	T	T	
Shagbark Hickory	Notable Cultivars: None			Health Concerns: None Notable		Site Usage: Riparian/Wet Park/Open Lawn				Flower/Fruit/Seed: Nut						
Other Notes: Deep taproot.																
Carya tomentosa	5	No	Yes	High	4-9	Upright Oval	50	25	L	T	I	N	I	T	N	
Mockernut Hickory	Notable Cultivars: None			Health Concerns: None		Site Usage: Park/Open Lawn				Flower/Fruit/Seed: Nut						
Other Notes: Deep taproot.																
Catalpa bignonioides	8	No	Yes	Moderate	5-9	Round	50	45	L	T	T	T	N	T	N	
Southern Catalpa	Notable Cultivars: None			Health Concerns: None Notable		Site Usage: Riparian/Wet Park/Open Lawn				Flower/Fruit/Seed: Flowers, Seed Pod						
Other Notes: None																
Catalpa speciosa	8	No	Yes	Moderate	4-8	Upright Oval	60	40	L	T	T	T	N	T	N	
Northern Catalpa	Notable Cultivars: ‘Hiawatha 2’- Narrow growth form and higher tolerance to urban environments			Health Concerns: None Notable		Site Usage: Park/Open Lawn				Flower/Fruit/Seed: Flowers, Seed Pod						
Other Notes: None																
Celtis laevigata	9	No	Yes	High	6-9	Round	50	45	M	T	N	T	T	T	T	
Sugarberry/ Sugar Hackberry/ Southern Hackberry	Notable Cultivars: ‘Hiawatha 2’- Narrow growth form and higher tolerance to urban environments			Health Concerns: Anthracnose, Nipple Gall		Site Usage: Street Tree Riparian/Wet Park/Open Lawn				Flower/Fruit/Seed: Drupe						
Other Notes: None																

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
Celtis occidentalis	10	Yes	Yes	Very High	3-9	Round	50	45	M	T	N	T	T	T	T
Common Hackberry	Notable Cultivars: 'Chicagoland'- Compact growth form 'Magnifica'- Higher tolerance to salt and drought 'Prairie Sentinel'- Narrow form, higher tolerance to urban conditions			Health Concerns: Anthracnose, Nipple Gall		Site Usage: Street Tree Riparian/Wet Park/Open Lawn			Flower/Fruit/Seed: Drupe						
Other Notes: Great at water filtration. An underutilized species.															
Celtis tenuifolia	9	No	Yes	High	5-9	Upright Oval	30	20	S	T	N	T	T	T	I
Dwarf Hackberry	Notable Cultivars: None			Health Concerns: Anthracnose, Nipple Gall		Site Usage: Riparian/Wet Park/Open Lawn			Flower/Fruit/Seed: Nut						
Other Notes: Difficult to find commercially.															
Cercidiphyllum japonicum	4	No	No	Low	4-8	Pyramidal	50	35	M	I	N	T	N	N	T
Katsura	Notable Cultivars: 'Heronswood Globe'- Dwarf variety 'Hanna's Heart'- Narrow growth form 'Kooldak'- Higher cold tolerance			Health Concerns: None Notable		Site Usage: Street Tree Riparian/Wet Park/Open Lawn			Flower/Fruit/Seed: None Notable						
Other Notes: Shallow root system. Usually used as a specimen tree in the landscape and has pleasant scent in spring.															
Cercis canadensis	8	Yes	Yes	High	4-9	Spreading	30	35	S	N	N	T	N	I	T
Eastern Redbud	Notable Cultivars: ‘MN Strain’- Higher cold tolerance ‘Ace of Hearts’- Dwarf variety			Health Concerns: Does poorly when exposed to full sun or extreme heat		Site Usage: Riparian/Wet Park/Open Lawn Overhead Utility Friendly			Flower/Fruit/Seed: Flowers						
Other Notes: Great Michigan native tree with striking pink flowers but occasionally splits apart in maturity.															
Chionanthus retusus	2	No	No	Unknown	5-9	Spreading	20	20	S	I	N	N	N	N	N
Chinese Fringetree	Notable Cultivars: ‘Tokyo Tower’- Narrow growth form			Health Concerns: Rarely affected by Emerald Ash Borer		Site Usage: Park/Open Lawn Overhead Utility Friendly			Flower/Fruit/Seed: Flowers						
Other Notes: Preferable to plant the US native White Fringe Tree.															

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
Chionanthus virginicus	8	No	Yes	Very High	3-9	Spreading	20	20	S	N	N	T	N	N	N
White Fringetree	Notable Cultivars: None			Health Concerns: Rarely affected by Emerald Ash Borer		Site Usage: Park/Open Lawn Overhead Utility Friendly			Flower/Fruit/Seed: Flowers						
Other Notes: Plantings in Central and Southeast Michigan have no observed Emerald Ash Borer damage.															
Cladrastis kentuckea	7	No	Yes	High	4-8	Round	45	45	M	N	I	T	N	T	I
Yellowwood	Notable Cultivars: 'Perkins Pink'- Higher tolerance of drought and different soil pH			Health Concerns: None Notable		Site Usage: Park/Open Lawn			Flower/Fruit/Seed: Flowers						
Other Notes: Great species for air filtration. Weaker wood and wide spread make it unsuitable for a street tree. Fixes															
Cornus alternifolia	6	Yes	Yes	Moderate	3-7	Round	20	20	S	I	N	N	N	N	T
Pagoda Dogwood/ Alternate-Leaf Dogwood	Notable Cultivars: 'Siberica'- Narrow growth form			Health Concerns: Anthracnose, various other pests and diseases		Site Usage: Riparian/Wet Overhead Utility Friendly			Flower/Fruit/Seed: Flowers						
Other Notes: None															
Cornus florida	6	Yes	Yes	High	5-9	Round	30	30	S	I	I	N	N	N	T
Flowering Dogwood	Notable Cultivars: None			Health Concerns: Anthracnose, various other pests and diseases		Site Usage: Riparian/Wet Park/Open Lawn Overhead Utility Friendly			Flower/Fruit/Seed: Flowers						
Other Notes: None															
Cornus kousa	6	No	No	High	5-8	Round	30	30	S	N	I	T	N	T	N
Kousa Dogwood	Notable Cultivars: 'Cherokee Princess'- Highly resistant to spot anthracnose 'Pygmy'- Dwarf growth from 'Appalachian Blush'- Higher disease resistance			Health Concerns: Anthracnose, various other pests and diseases		Site Usage: Park/Open Lawn Overhead Utility Friendly			Flower/Fruit/Seed: Flowers						
Other Notes: None															
Cornus mas	4	No	No	Moderate	5-8	Round	20	20	S	N	N	T	N	N	N
Corneliancherry Dogwood	Notable Cultivars: 'Golden Glory'- Higher tolerance for urban conditions 'Redstone'- Higher tolerance for urban conditions			Health Concerns: Anthracnose, various other pests and diseases		Site Usage: Park/Open Lawn Overhead Utility Friendly			Flower/Fruit/Seed: Flowers, Berry						
Other Notes: None															

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
Corylus cornua	5	No	No	Moderate	5-7	Pyramidal	50	35	L	T	N	T	I	T	N
Turkish Filbert/ Turkish Hazelnut	Notable Cultivars: None			Health Concerns: Eastern Filbert Blight		Site Usage: Street Tree Park/Open Lawn			Flower/Fruit/Seed: Nut, Seed Pod						
Other Notes: None															
Cotinus obovatus	9	No	Yes	Very High	5-8	Upright Oval	30	25	S	N	N	T	N	T	N
American Smoketree/ Chittamwood	Notable Cultivars: None			Health Concerns: None Notable		Site Usage: Riparian/Wet Park/Open Lawn Overhead Utility Friendly			Flower/Fruit/Seed: Flowers						
Other Notes: Great species for air filtration. Weaker wood and wide spread make it unsuitable for a street tree.															
Crataegus crusgalli	6	No	Yes	Moderate	4-7	Round	30	30	S	T	N	T	N	T	I
Cockspur Hawthorn	Notable Cultivars: 'Cruzam Crusader'- Thornless variety			Health Concerns: Fireblight, rusts, scab, various pests		Site Usage: Park/Open Lawn Overhead Utility Friendly			Flower/Fruit/Seed: Flowers, Fruit						
Other Notes: Has long thorns but thornless cultivars are available.															
Crataegus phaenopyrum	5	No	Yes	Moderate	4-8	Round	30	25	S	T	N	T	I	T	I
Washington Hawthorn	Notable Cultivars: 'Washington Lustre'- Higher tolerance and adaptability to urban conditions			Health Concerns: Fireblight, rusts, scab, various pests		Site Usage: Park/Open Lawn Overhead Utility Friendly			Flower/Fruit/Seed: Flowers, Fruit						
Other Notes: Has long thorns but thornless cultivars are available.															
Crataegus viridis	6	No	Yes	Moderate	4-7	Spreading	30	30	S	T	N	T	N	T	I
Green Hawthorn	Notable Cultivars: 'Winter King'- Flat top branching form, higher tolerance to urban conditions			Health Concerns: Fireblight, rusts, scab, various pests		Site Usage: Park/Open Lawn Overhead Utility Friendly			Flower/Fruit/Seed: Flowers, Fruit						
Other Notes: Has long thorns but thornless cultivars are available.															
Diospyros virginiana	9	No	Yes	Very High	4-9	Upright Oval	50	35	M	T	N	T	T	N	N
Common Persimmon	Notable Cultivars: None			Health Concerns: None Notable		Site Usage: Park/Open Lawn			Flower/Fruit/Seed: Flowers, Fruit						
Other Notes: Female varieties produce fruit.															
Eucommia ulmoides	6	No	No	High	4-7	Upright Oval	60	50	L	T	I	T	T	T	N
Hardy Rubber Tree	Notable Cultivars: None			Health Concerns: None Notable		Site Usage: Park/Open Lawn			Flower/Fruit/Seed: None Notable						
Other Notes: None															

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Name															
Fagus grandifolia	3	Yes	Yes	High	3-8	Round	75	75	L	N	I	N	I	T	N
American Beech	Notable Cultivars: None			Health Concerns: Beech Bark Disease, Beech Leaf Disease		Site Usage: Park/Open Lawn			Flower/Fruit/Seed: Nut, Seed Pod						
Other Notes: None															
Fagus sylvatica	2	No	No	Moderate	4-7	Round	75	60	L	N	I	N	I	T	N
European Beech	Notable Cultivars: None			Health Concerns: Beech Bark Disease, Beech Leaf Disease		Site Usage: Park/Open Lawn			Flower/Fruit/Seed: Nut, Seed Pod						
Other Notes: None															
Franklinia alatamaha	5	No	Yes	Unknown	5-8	Round	20	15	S	I	T	T	N	N	N
Franklin Tree	Notable Cultivars: None			Health Concerns: None Notable		Site Usage: Riparian/Wet Park/Open Lawn Overhead Utility Friendly			Flower/Fruit/Seed: Flowers						
Other Notes: Difficult to transplant.															
Ginkgo biloba	9	No	No	Very High	3-8	Columnar	50	40	M	T	N	T	N	T	N
Ginkgo/ Maidenhair Tree	Notable Cultivars: 'Princeton Sentry'- Narrow growth form, higher tolerance to urban conditions 'Magyar'- Fruitless, higher tolerance to urban conditions 'The President'- Fruitless, dense branching			Health Concerns: None		Site Usage: Street Tree Park/Open Lawn			Flower/Fruit/Seed: Fruit						
Other Notes: Male varieties are fruitless but could possibly revert to female and produce fruit.															
Gleditsia triacanthos var. inermis	8	Yes	Yes	High	3-8	Vase	50	40	M	T	N	T	T	I	N
Thornless Honeylocust	Notable Cultivars: 'Skyline'- Seedless, higher tolerance to urban conditions 'Imperial'- Compact growth form, seedless, higher tolerance to urban conditions 'Halka'- Seedless, higher tolerance to urban conditions			Health Concerns: None Notable		Site Usage: Street Tree Park/Open Lawn			Flower/Fruit/Seed: Seed Pod						
Other Notes: Has thorns but thornless cultivars are available. Highly rot resistant wood and holds lower branches that would need to be pruned. Fixes nitrogen in the soil.															

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Gymnocladus dioicus	10	Yes	Yes	Very High	3-8	Upright Oval	70	50	M	T	T	T	T	T	N
Kentucky Coffeetree	Notable Cultivars: 'Espresso'- Seedless 'True North'- Seedless, higher cold tolerance 'Skinny Latte'- Narrow and smaller growth form			Health Concerns: None Notable		Site Usage: Street Tree Riparian/Wet Park/Open Lawn			Flower/Fruit/Seed: Seed Pod						
Other Notes: Exceptionally high tolerance to urban conditions.															
Halesia carolina	7	No	Yes	Moderate	5-8	Vase	30	30	M	I	N	I	N	N	T
Carolina Silverbell/ Common Silverbell	Notable Cultivars: None			Health Concerns: None Notable		Site Usage: Riparian/Wet Overhead Utility Friendly			Flower/Fruit/Seed: Flowers, Seed Pod						
Other Notes: None															
Hamamelis vernalis	5	No	Yes	Moderate	4-8	Vase	10	10	S	I	N	T	N	N	N
Vernal Witchhazel	Notable Cultivars: 'Autumn Embers'- Upright growth form			Health Concerns: None Notable		Site Usage: Riparian/Wet Overhead Utility Friendly			Flower/Fruit/Seed: Flowers						
Other Notes: Can sucker sprout through roots.															
Hamamelis virginiana	6	Yes	Yes	Round	3-8	Vase	25	25	S	N	T	N	N	N	T
Common Witchhazel	Notable Cultivars: None			Health Concerns: None		Site Usage: Riparian/Wet Overhead Utility Friendly			Flower/Fruit/Seed: Flowers						
Other Notes: Can sucker sprout through roots.															
Hydrangea paniculata	4	No	Yes	Unknown	4-8	Round	20	20	S	N	N	T	I	N	T
Panicle Hydrangea	Notable Cultivars: None			Health Concerns: None		Site Usage: Park/Open Lawn Overhead Utility Friendly			Flower/Fruit/Seed: Flowers						
Other Notes: Usually used in tree forms for decorative purposes in landscapes.															
Juglans cinerea	2	Yes	Yes	Low	3-7	Round	60	45	L	I	I	T	I	T	I
Butternut/ White Walnut	Notable Cultivars: None			Health Concerns: Butternut Canker		Site Usage: Park/Open Lawn			Flower/Fruit/Seed: Nut						
Other Notes: Roots secrete juglone which inhibits growth of other plants around it.															
Juglans nigra	2	Yes	Yes	Low	4-9	Round	75	70	L	I	I	T	I	T	I
Black Walnut	Notable Cultivars: None			Health Concerns: None Notable		Site Usage: Park/Open Lawn			Flower/Fruit/Seed: Nut						
Other Notes: Roots secrete juglone which inhibits growth of other plants around it.															

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Laburnum anagyroides	2	No	No	Unknown	5-7	Vase	25	25	S	I	I	N	N	N	T
Common Laburnum/ Golden Chain Tree	Notable Cultivars: None			Health Concerns: None Notable		Site Usage: Park/Open Lawn Overhead Utility Friendly			Flower/Fruit/Seed: Flowers, Seed Pod						
Other Notes: Seeds harmful if ingested. Fixes nitrogen in the soil.															
Liquidambar styraciflua	6	No	Yes	Low	5-9	Round	55	45	M	N	T	N	N	I	N
Sweetgum	Notable Cultivars: 'Rotundiloba'- Seedless with interesting leaf shape 'Clydesform'- Compact and narrow growth form 'Slender Silhouette'- Very narrow growth form			Health Concerns: None Notable		Site Usage: Street Tree Park/Open Lawn			Flower/Fruit/Seed: Seed Pod						
Other Notes: Spikey seed balls add ornamental value but could be a burden to clean up.															
Liriodendron tulipifera	6	Yes	Yes	Low	5-9	Upright Oval	80	40	L	N	N	N	I	I	I
Tuliptree/ Tulip Poplar/ Yellow Poplar	Notable Cultivars: 'Fastigiatum'- Narrow growth form 'JFS-Oz'- Uniform and upright growth form 'Compactum'- Dwarf variety			Health Concerns: None Notable		Site Usage: Street Tree Park/Open Lawn			Flower/Fruit/Seed: Flowers						
Other Notes: None															
Maackia amurensis	5	No	No	High	3-7	Vase	30	35	S	N	N	T	N	T	I
Amur Maackia	Notable Cultivars: None			Health Concerns: None		Site Usage: Street Tree Park/Open Lawn Overhead Utility Friendly			Flower/Fruit/Seed: Flowers						
Other Notes: Fixes nitrogen in the soil.															
Maclura pomifera	5	No	Yes	High	5-9	Round	45	40	M	T	N	T	T	T	I
Osage Orange	Notable Cultivars: 'Double O'- Thornless, upright growth form 'White Shield'- Thornless, fruitless 'Wichita'- Higher tolerance to urban conditions			Health Concerns: None		Site Usage: Park/Open Lawn			Flower/Fruit/Seed: Fruit						
Other Notes: Thornless and fruitless varieties are available. Fruitless varieties could be used as a street tree. Fruit is															

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Name															
Metasequoia glyptostroboides	7	No	No	High	5-8	Pyramidal	80	35	L	N	T	N	I	T	I
Dawn Redwood	Notable Cultivars: 'Gold Rush'- Higher tolerance to temperature fluctuations 'JFS-PN3Legacy'- Upright and Uniform growth form			Health Concerns: None		Site Usage: Street Tree Riparian/Wet Park/Open Lawn				Flower/Fruit/Seed: None Notable					
Other Notes: Deciduous conifer. Similar to Baldcypress.															
Nyssa sylvatica	10	Yes	Yes	Very High	4-9	Upright Oval	50	25	M	T	T	I	N	T	T
Black Gum/ Black Tupelo	Notable Cultivars: 'David Odom'- Better growth form for streetscapes			Health Concerns: Leaf Spot		Site Usage: Street Tree Riparian/Wet Park/Open Lawn				Flower/Fruit/Seed: Drupe					
Other Notes: Sometimes difficult to establish. Deep red fall color make it a good maple alternate.															
Ostrya virginiana	10	Yes	Yes	Very High	3-8	Upright Oval	40	35	S	N	N	T	I	T	N
American Hop-Hornbeam/ Ironwood	Notable Cultivars: 'JFS-KWS'- Upright growth form			Health Concerns: None Notable		Site Usage: Street Tree Riparian/Wet Park/Open Lawn				Flower/Fruit/Seed: Flowers, Seed Pod					
Other Notes: Very strong wood.															
Oxydendrum arboreum	5	No	Yes	High	5-8	Pyramidal	40	25	M	I	N	N	I	I	T
Sourwood/ Lily-of-the-Valley Tree	Notable Cultivars: None			Health Concerns: None Notable		Site Usage: Park/Open Lawn Overhead Utility Friendly				Flower/Fruit/Seed: Flowers					
Other Notes: None															
Parrotia persica	6	No	No	High	5-8	Upright Oval	40	30	M	T	I	N	N	N	N
Persian Parrotia/ Persian Ironwood	Notable Cultivars: 'JLColumnar'- Narrow growth form 'Inge's Ruby Vase'- Narrow upright growth form 'Vanessa'- Vase shaped growth form			Health Concerns: None Notable		Site Usage: Street Tree Park/Open Lawn				Flower/Fruit/Seed: Flowers					
Other Notes: None															

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Name															
Platanus occidentalis	7	Yes	Yes	High	4-9	Round	90	70	L	T	T	T	N	I	I
Sycamore	Notable Cultivars: None			Health Concerns: Anthracnose		Site Usage: Street Tree Park/Open Lawn			Flower/Fruit/Seed: Seed Pod						
Other Notes: High emission of volatile organic compounds and pollen in spring.															
Platanus x acerifolia	7	No	No	High	5-9	Round	80	70	L	T	T	T	N	I	I
London Planetree	Notable Cultivars: 'Bloodgood'- Higher resistance to anthracnose 'Morton Circle'- Higher tolerance to urban conditions, higher anthracnose resistance, denser growth form 'Morton Naper'- Higher resistance to anthracnose			Health Concerns: Anthracnose		Site Usage: Street Tree Park/Open Lawn			Flower/Fruit/Seed: Seed Pod						
Other Notes: High emission of volatile organic compounds and pollen in spring.															
Populus spp.	1	Yes	Yes	Low	2-7	Various	60	30	L	I	N	N	I	I	I
Aspen/ Poplar/ Cottonwood	Notable Cultivars: None			Health Concerns: Various pests and diseases		Site Usage: Riparian/Wet Park/Open Lawn			Flower/Fruit/Seed: Catkins						
Other Notes: Grouping this genus of species that are rarely planted in managed landscapes. Weak wood. Spreads clonally through roots. Should only be planted far away from any above or below ground utilities in parks.															
Prunus americana	2	Yes	Yes	Low	3-8	Round	25	20	S	N	N	N	I	I	N
American Plum	Notable Cultivars: None			Health Concerns: Various pests and disease s		Site Usage: Overhead Utility Friendly			Flower/Fruit/Seed: Flowers, Fruit						
Other Notes: None															
Prunus nigra	2	Yes	Yes	Low	2-5	Round	25	20	S	N	N	N	I	I	N
Canadian Plum	Notable Cultivars: None			Health Concerns: Various pests and diseases		Site Usage: Overhead Utility Friendly			Flower/Fruit/Seed: Flowers, Fruit						
Other Notes: None															
Prunus sargentii	3	No	No	Moderate	5-8	Round	40	40	M	N	I	N	N	I	I
Sargent Cherry	Notable Cultivars: 'Columnaris'- Vase shaped growth form			Health Concerns: Various pests and diseases		Site Usage: Park/Open Lawn			Flower/Fruit/Seed: Flowers, Fruit						
Other Notes: None															

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Prunus serotina	3	Yes	Yes	Low	3-9	Upright Oval	80	50	L	N	N	N	N	N	N
Black Cherry	Notable Cultivars: None			Health Concerns: Various pests and diseases		Site Usage: Park/Open Lawn			Flower/Fruit/Seed: Flowers, Drupe						
Other Notes: None															
Prunus serrulata	2	No	No	Moderate	5-6	Round	20	20	S	I	I	N	I	N	N
Japanese Flowering Cherry	Notable Cultivars: ‘Kwanzan’ - Vase shaped growth form			Health Concerns: Various pests and diseases		Site Usage: Park/Open Lawn Overhead Utility Friendly			Flower/Fruit/Seed: Flowers, Drupe						
Other Notes: None															
Prunus spp.	2	No	No	Moderate	5-9	Round	35	35	M	N	I	N	I	I	N
Ornamental Cherry	Notable Cultivars: Various with different pest/disease resistances and growth forms			Health Concerns: Various pests and diseases		Site Usage: Park/Open Lawn Overhead Utility Friendly			Flower/Fruit/Seed: Flowers, Drupe						
Other Notes: There are plenty Prunus species not listed in this guide so this serves as a general summary of those not listed.															
Prunus virginiana	3	Yes	Yes	Moderate	2-6	Round	25	15	S	N	I	T	I	I	N
Chokecherry	Notable Cultivars: None			Health Concerns: Various pests and disease s		Site Usage: Park/Open Lawn Overhead Utility Friendly			Flower/Fruit/Seed: Flowers, Drupe						
Other Notes: None															
Ptelea trifoliata	7	Yes	Yes	High	4-9	Round	25	15	S	T	N	T	T	N	T
Wafer-Ash/ Common Hop Tree	Notable Cultivars: None			Health Concerns: None Notable		Site Usage: Park/Open Lawn Overhead Utility Friendly			Flower/Fruit/Seed: Samara						
Other Notes: Can have an unpleasant odor.															
Quercus alba	6	Yes	Yes	Moderate	3-9	Round	100	80	L	N	T	N	N	N	N
White Oak	Notable Cultivars: None			Health Concerns: Oak Wilt, Two-lined Chestnut Borer		Site Usage: Park/Open Lawn			Flower/Fruit/Seed: Nut						
Other Notes: Deep taproot. Resistant to oak wilt.															

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
Quercus bicolor	10	Yes	Yes	Very High	4-8	Upright Oval	70	60	L	T	T	T	N	N	I
Swamp White Oak	Notable Cultivars: 'American Dream'- Pyramidal growth form 'Bonnie & Mike'- Columnar growth form, higher tolerance to urban conditions			Health Concerns: Oak Wilt, Two-lined Chestnut Borer		Site Usage: Street Tree Riparian/Wet Park/Open Lawn				Flower/Fruit/Seed: Nut					
Other Notes: Deep taproot. Resistant to oak wilt.															
Quercus coccinea	6	Yes	Yes	High	5-8	Round	70	55	L	N	T	N	I	I	I
Scarlet Oak	Notable Cultivars: None			Health Concerns: Oak Wilt, Two-lined Chestnut Borer		Site Usage: Street Tree Park/Open Lawn				Flower/Fruit/Seed: Nut					
Other Notes: Deep taproot.															
Quercus ellipsoidalis	4	Yes	Yes	Low	4-8	Upright Oval	75	45	L	N	T	I	I	I	I
Northern Pin Oak	Notable Cultivars: None			Health Concerns: Oak Wilt, Two-lined Chestnut Borer		Site Usage: Park/Open Lawn				Flower/Fruit/Seed: Nut					
Other Notes: Deep taproot.															
Quercus imbricaria	7	No	Yes	High	5-8	Upright Oval	60	60	L	N	N	N	T	N	N
Shingle Oak	Notable Cultivars: None			Health Concerns: Oak Wilt, Two-lined Chestnut Borer		Site Usage: Street Tree Park/Open Lawn				Flower/Fruit/Seed: Nut					
Other Notes: Deep taproot.															
Quercus lyrata	7	No	Yes	High	5-9	Round	60	60	L	T	N	N	N	N	I
Overcup Oak	Notable Cultivars: None			Health Concerns: Oak Wilt, Two-lined Chestnut Borer		Site Usage: Park/Open Lawn				Flower/Fruit/Seed: Nut					
Other Notes: Deep taproot. Resistant to oak wilt.															
Quercus macrocarpa	10	Yes	Yes	Very High	3-8	Upright Oval	90	80	L	T	T	T	N	N	I
Bur Oak	Notable Cultivars: ‘JFS-KW14’- Uniform branching with higher anthracnose and mildew resistance			Health Concerns: Oak Wilt, Two-lined Chestnut Borer		Site Usage: Street Tree Park/Open Lawn				Flower/Fruit/Seed: Nut					
Other Notes: Deep taproot. Slightly resistant to oak wilt.															

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	
Quercus michauxii	7	No	Yes	High	5-9	Round	80	60	L	T	T	T	N	N	I	
Swamp Chestnut Oak	Notable Cultivars: None			Health Concerns: Oak Wilt, Two-lined Chestnut Borer		Site Usage: Street Tree Riparian/Wet Park/Open Lawn			Flower/Fruit/Seed: Nut							
Other Notes: Deep taproot. Resistant to oak wilt.																
Quercus montana	7	No	Yes	High	4-8	Round	70	70	L	T	N	T	N	N	I	
Chestnut Oak	Notable Cultivars: None			Health Concerns: Oak Wilt, Two-lined Chestnut Borer		Site Usage: Park/Open Lawn			Flower/Fruit/Seed: Nut							
Other Notes: Deep taproot.																
Quercus muehlenbergii	8	Yes	Yes	High	3-9	Round	60	60	L	T	N	T	N	N	I	
Chinkapin Oak	Notable Cultivars: None			Health Concerns: Oak Wilt, Two-lined Chestnut Borer		Site Usage: Park/Open Lawn			Flower/Fruit/Seed: Nut							
Other Notes: Deep taproot. Resistant to oak wilt.																
Quercus palustris	6	Yes	Yes	High	4-8	Upright Oval	75	40	L	N	N	I	I	I	I	
Pin Oak	Notable Cultivars: None			Health Concerns: Oak Wilt, Two-lined Chestnut Borer		Site Usage: Street Tree Park/Open Lawn			Flower/Fruit/Seed: Nut							
Other Notes: Deep taproot.																
Quercus phellos	5	No	Yes	Unknown	5-9	Upright Oval	75	50	L	N	T	T	N	T	I	
Willow Oak	Notable Cultivars: None			Health Concerns: Oak Wilt, Two-lined Chestnut Borer		Site Usage: Street Tree Park/Open Lawn			Flower/Fruit/Seed: Nut							
Other Notes: Deep taproot.																
Quercus robur	5	No	No	Moderate	5-8	Upright	60	50	L	T	N	T	N	T	I	
English Oak	Notable Cultivars: ‘Fastigiata’- Narrow growth form, higher tolerance to urban environments			Health Concerns: Oak Wilt, Two-lined Chestnut Borer		Site Usage: Street Tree Park/Open Lawn			Flower/Fruit/Seed: Nut							
Other Notes: Deep taproot.																

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
Quercus rubra	6	Yes	Yes	High	3-9	Upright Oval	80	60	L	T	I	N	T	T	I
Northern Red Oak	Notable Cultivars: None			Health Concerns: Oak Wilt, Two-lined Chestnut Borer		Site Usage: Street Tree Park/Open Lawn			Flower/Fruit/Seed: Nut						
Other Notes: Deep taproot.															
Quercus shumardii	5	No	Yes	High	5-9	Round	80	50	L	T	N	N	N	N	I
Shumard Oak/ Swamp Red Oak	Notable Cultivars: None			Health Concerns: Oak Wilt, Two-lined Chestnut Borer		Site Usage: Street Tree Park/Open Lawn			Flower/Fruit/Seed: Nut						
Other Notes: Deep taproot.															
Quercus velutina	5	Yes	Yes	Low	3-9	Upright Oval	70	50	L	N	N	N	N	N	I
Black Oak	Notable Cultivars: None			Health Concerns: Oak Wilt, Two-lined Chestnut Borer		Site Usage: Street Tree Park/Open Lawn			Flower/Fruit/Seed: Nut						
Other Notes: Deep taproot.															
Quercus x.	5	No	No	Unknown	4-8	Columnar	30	20	M	T	T	T	T	T	I
Hybrid Oaks	Notable Cultivars: 'Nadler'- Narrow growth form, higher tolerance to urban conditions 'Long'- Narrow growth form, higher tolerance to urban conditions			Health Concerns: Oak Wilt, Two-lined Chestnut Borer		Site Usage: Street Tree Park/Open Lawn			Flower/Fruit/Seed: Nut						
Other Notes: Deep taproot. Vary in traits and tolerances. Reported failure of hybrids throughout Michigan.															
Salix nigra	2	Yes	Yes	Low	4-9	Vase	60	60	L	I	T	N	N	I	I
Black Willow	Notable Cultivars: None			Health Concerns: Various pests and diseases		Site Usage: Riparian/Wet			Flower/Fruit/Seed: Catkins						
Other Notes: Aggressive root system.															
Sassafras albidum	5	Yes	Yes	Moderate	4-8	Columnar	50	30	L	N	N	N	N	N	N
Sassafras	Notable Cultivars: None			Health Concerns: None Notable		Site Usage: Riparian/Wet Park/Open Lawn			Flower/Fruit/Seed: None Notable						
Other Notes: Leaves and bark have a pleasant scent.															

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
Stewartia pseudocamellia	2	No	No	Unknown	5-8	Pyramidal	40	30	M	I	N	N	N	N	N
Korean Stewartia/ Japanese Stewartia	Notable Cultivars: 'Pilar Bella'- Columnar growth form			Health Concerns: None Notable		Site Usage: Park/Open Lawn			Flower/Fruit/Seed: Flowers						
Other Notes: None															
Styrax japonicus	3	No	No	Unknown	5-9	Vase	30	30	M	I	N	N	N	N	N
Japanese Snowbell	Notable Cultivars: None			Health Concerns: None Notable		Site Usage: Park/Open Lawn Overhead Utility Friendly			Flower/Fruit/Seed: Flowers						
Other Notes: None															
Styrax obassia	3	No	No	Unknown	5-8	Vase	30	25	S	I	N	N	N	N	N
Fragrant Snowbell	Notable Cultivars: None			Health Concerns: None Notable		Site Usage: Park/Open Lawn Overhead Utility Friendly			Flower/Fruit/Seed: Flowers						
Other Notes: None															
Taxodium distichum	10	No	Yes	Very High	5-10	Pyramidal	70	30	L	T	T	N	N	T	T
Baldcypress	Notable Cultivars: 'Mickelson'- Narrow growth form, higher tolerance to urban conditions 'Skyward'- Dwarf variety for around utility wires			Health Concerns: None Notable		Site Usage: Street Tree Riparian/Wet Park/Open Lawn			Flower/Fruit/Seed: None Notable						
Other Notes: Deciduous conifer. Observed great success in Northern Midwest climates despite being a southern species.															
Taxodium distichum var. imbricarium	10	No	Yes	Very High	5-9	Pyramidal	60	20	L	T	T	N	N	T	T
Pondcypress	Notable Cultivars: 'Carolyn Malone'- Higher heat and flooding tolerance			Health Concerns: None Notable		Site Usage: Street Tree Riparian/Wet Park/Open Lawn			Flower/Fruit/Seed: None Notable.						
Other Notes: Deciduous conifer. A variety of Baldcypress.															
Tilia americana	6	Yes	Yes	Moderate	3-8	Round	80	50	L	N	N	T	I	I	T
American Linden/ Basswood	Notable Cultivars: 'Bailyard'- Dense branching form, 'Boulevard'- Narrow growth form, higher tolerance to urban conditions 'McKSentry'- Narrow growth form,			Health Concerns: Japanese Beetle		Site Usage: Street Tree Park/Open Lawn			Flower/Fruit/Seed: Flowers						
Other Notes: Commonly sprouts from base of the tree but they can be pruned back as they appear.															

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
Tilia cordata	6	No	No	High	4-7	Round	60	40	L	N	N	T	I	T	N
Littleleaf Linden	Notable Cultivars: 'Greenspire'- Higher tolerance to urban conditions 'Glenleven'- Higher tolerance to urban condtions			Health Concerns: Japanese Beetle		Site Usage: Street Tree Park/Open Lawn			Flower/Fruit/Seed: Flowers						
Other Notes: Commonly sprouts from base of the tree but they can be pruned back as they appear.															
Tilia tomentosa	6	No	No	High	4-8	Pyramidal	70	55	L	N	N	T	N	T	N
Silver Linden	Notable Cultivars: 'Sashazam'- Higher drought tolerance 'Sterling'- Leaves resist insect feeding damage			Health Concerns: Japanese Beetle		Site Usage: Park/Open Lawn Overhead Utility Friendly			Flower/Fruit/Seed: Flowers						
Other Notes: Commonly sprouts from base of the tree but they can be pruned back as they appear.															
Tilia x.	6	No	No	Unknown	3-8	Pyramidal	70	40	L	N	N	T	I	T	N
Hybrid Lindens	Notable Cultivars: 'Redmond'- Higher tolerance to urban conditions			Health Concerns: Japanese Beetle		Site Usage: Street Tree Park/Open Lawn			Flower/Fruit/Seed: Flowers						
Other Notes: Commonly sprouts from base of the tree but they can be pruned back as they appear.															
Ulmus americana	9	Yes	Yes	High	2-9	Vase	100	80	L	T	T	T	N	T	N
American Elm	Notable Cultivars: Various cultivars with Dutch Elm Disease resistance			Health Concerns: Dutch Elm Disease		Site Usage: Street Tree Riparian/Wet Park/Open Lawn			Flower/Fruit/Seed: None Notable						
Other Notes: Should only use Dutch Elm Disease resistant cultivars for projects.															
Ulmus x.	8	No	No	Unknown	4-7	Vase	70	60	L	T	T	T	N	T	N
Hybrid Elms	Notable Cultivars: 'Morton Accolade'- Dutch Elm Disease resistance 'New Horizon'- Dutch Elm Disease resistance, higher tolerance for cold conditions			Health Concerns: Dutch Elm Disease		Site Usage: Street Tree Riparian/Wet Park/Open Lawn			Flower/Fruit/Seed: None Notable.						
Other Notes: Should only plant Dutch Elm Disease resistant cultivars for projects.															
Zelkova serrata	6	No	No	Very High	5-9	Vase	40	30	M	T	N	N	N	I	I
Japanese Zelkova	Notable Cultivars: 'JFS-KW1'- Compact growth form 'Schmidtlow'- Flat top growth form for around utility wires 'Green Vase'- Dense growth form			Health Concerns: None Notable		Site Usage: Street Tree Park/Open Lawn			Flower/Fruit/Seed: None Notable						
Other Notes: Branch unions can break apart in areas with frequent freeze/thaw cycles.															

MI 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 a lot of 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 planted usually as a landscape highlight, were considered but mostly limited to observed species around Michigan. Just because a species is not on here doesn't mean it should or should not be planted and consultation with your local tree supplier and experts is recommended. We tried to be inclusive and have as many choices as possible to choose from. 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 education 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.

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

Botanical Name	Common Name(s)	Hardiness Zones	Mature Height (Ft.)	Mature Spread (Ft.)	Planting Area	Native Species (MI)	Native Species (US)
<i>Pinus koraiensis</i>	Korean Pine	4-7	60	25	L	No	No
<i>Pinus mugo</i>	Mugo Pine/Swiss Mountain Pine	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/ 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 their leaves.

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



MI Community Tree Species Selection Guide

Undesirable Species List

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 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 for a precaution even if they are not readily available in the Michigan marketplace. Be wary that some of these undesirable species could be hidden behind cultivar or trade names so check the tag for their botanical name when purchasing. Refer to MDARD for any restrictions of purchasing, sale, or movement of invasive species. Other species that are not invasive nor have invasive potential are on this list due to undesirable characteristics for community landscapes.

The below photo 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 our managed landscapes as well as our natural areas are not overtaken.



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

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Resources

Expert Resources

Michigan Department of Natural Resources Urban and Community Forestry Program:
Michigan.gov/UCF

Michigan Department of Agriculture and Rural Development:
michigan.gov/mdard/plant-pest/plant-health/invasive-species

International Society of Arboriculture Michigan:
Asm-isa.org

Michigan Green Industry Association:
Landscape.org

Michigan Nursery and Landscape Association:
MNLA.org

Michigan State University Extension:
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

Tree Equity Score:
Treeequityscore.org

Urban Tree Canopy Data:
Treecanopy.us

Google Environmental Insights Explorer:
Insights.sustainability.google

Planting and Maintenance

USDA Tree Owner's Manual:
fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5368392.pdf

ReLeaf Michigan:
Releafmichigan.org

MI Trees Planting Tracker:
michigan.gov/dnr/managing-resources/forestry/mi-trees

Vegetation Barrier Toolkit:
chicagorti.org/app/uploads/2023/04/22CRTI_Vegetation-Barrier-Toolkit_0425.pdf

Michigan Department of Transportation Vegetation Management:
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

Consumers Energy Tree Maintenance:
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-mid-to-high-rise-residential-all-non-residential/

Services

MISS DIG 811:
Missdig811.org

Michigan State University Plant and Pest Diagnostics:
www.canr.msu.edu/pestid/

Michigan State University Soil Testing:
homesoiltest.msu.edu

Climate Adaptation Information

Detroit Tree Species Vulnerability:
https://forestadaptation.org/sites/default/files/2021-03/DetroitMI_TreeSpeciesVulnerability.pdf

Future Cold Hardiness Zones Tool:
climatetoolbox.org/tool/Future-Cold-Hardiness-Zones

Climate Change Tree Atlas:
fs.usda.gov/nrs/atlas/tree/

Climate Change Response Framework:
forestadaptation.org/assess/ecosystem-vulnerability/urban

Vibrant Cities Lab Toolkit:
Vibrantcitieslab.com/toolkit/

MI Community Tree Species Selection Guide

Glossary

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

Assisted Migration— The human assisted relocation of species beyond their historic range that 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 prohibited by local law or ordinance to be planted. Check with MDARD and your local official departments.

Riparian— relating to or situated on the banks of a river or wetlands adjacent to rivers and streams.

Samara— Thin papery “wings” attached to the 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 7 levels from domain to species.

Tree Board— A usually volunteer led board that advises their 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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