Going Native with Michigan Trees

By Bert Cregg, Michigan State University, Department of Horticulture, Department of Forestry
Photos by Jesse Saylor, Michigan State University except as noted

Using native plants for landscaping has become a hot topic in landscape horticulture thanks to numerous books and articles in the popular press. There are many motivations for homeowners and other clients that want to incorporate native plants into their landscapes. Some are swayed by the argument that natives are 'greener' than exotic plants and therefore will require less maintenance. Others may be concerned by the potential for non-native plants to become invasive and create an ecological nuisance. Still others simply feel a connection with all things Michigan and want to include plants that are native to Michigan in their landscape. Regardless of the motivation, it is clear that public awareness and interest in native plants, especially trees, is increasing. Fortunately, Michigan is home to a diverse array of native trees species, many of which make outstanding landscape trees.

Why go native?

Here are just a few reasons to consider natives when selecting landscape trees.

- **Connection to Michigan's natural heritage.** Michigan has a fascinating natural history. Climatic conditions, the churning of soils through glaciation, and fire have produced a mosaic of vegetation types and unique ecological assemblages throughout Michigan. Incorporating natives into landscape designs provides a linkage with this rich natural heritage.

- **Increased species diversity.** Whether species are native or exotic, diversifying the mix of species in our landscapes and urban and community forests helps to reduce the risk of catastrophic tree loss due to pest outbreaks such as emerald ash borer.
- **Michigan natives include some great landscape trees.** Although some native Michigan species, such as Silver maple or Black locust, are dubious choices for landscape or street tree planting, there are many Michigan natives that can fill unique niches in our landscapes. Here are some examples.

Carpinus caroliniana, Blue beech or Hornbeam is a small to medium sized tree that is native to cool moist understory sites. Another common name is Musclewood, which refers to the muscled appearance of its trunk. It produces a nice display of yellow to red fall color. Occurs throughout Michigan although it is more common in the southern Lower Peninsula than further north.

Left: Identity crisis? Blue beech, Hornbeam, Ironwood, Musclewood. *Carpinus caroliniana* may lead the league in common names.

Above: Hornbeam is a small understory tree that also provides fall color.

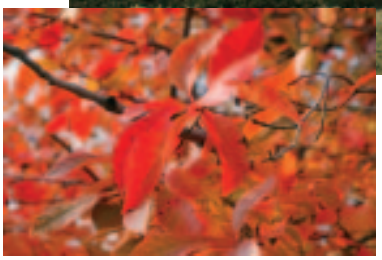
Inset: Not something you see everyday. The giant, doubly-pinnate compound leaf of a Kentucky coffee tree.

Above: Kentucky coffee tree showing fall color.

Gymnocladus dioicus, Kentucky coffee tree is becoming an increasingly popular choice as a landscape tree. In fact, in some locations demand may outpace supply. This is an interesting medium-sized tree. Once established, coffee tree is considered drought hardy and relatively salt tolerant, making it a common choice to fill the void left by the removal of ash trees. Its bi-pinnately compound leaf makes it botanically interesting as well. Yellow fall color adds to its ornamental appeal. The common name 'coffee tree' stems from the coffee-like beverage that early pioneers brewed from the seeds. Kentucky coffee tree is dioecious and seedless cultivars such as Espresso™ can eliminate problems of messy seedpods. The native range of Kentucky coffee tree extends into the southern Lower Peninsula, but it is considered relatively rare in Michigan.

Ostrya virginiana, Hophornbeam or Ironwood is a small understory tree. It is noteworthy for its fruit, which resemble clusters of hops. Ostrya is regarded as difficult to transplant, but easy to maintain once established. Hophornbeam occurs throughout Michigan as a scattered understory tree.

It's not hard to see how Hophornbeam got its common name.



Although Tupelo is mainly a Southern tree, the native range extends into Michigan Photo: Bert Cregg

Tupelo provides several seasons of interest. Photo: Bert Cregg

Nyssa sylvatica, Tupelo or Blackgum is a bottomland species adapted to handle wet sites. Transplanting Tupelo can be difficult, but their great red fall color makes it worth the effort. Transplanting in spring can improve success. *Nyssa* are native to the southern half of the Lower Peninsula.

Hackberry is another candidate for a tough tree for tough places.

Celtis occidentalis, Hackberry commonly makes the list of 'tough trees for tough places'. Hackberry is large tree that can handle somewhat alkaline soils (pH<8.2) as well as drought. Bare-root transplanting can be difficult, so stick with B&B or container stock. Hackberry grows throughout the eastern U.S. into the Great Plains. In Michigan it occurs in the southern half of the Lower Peninsula.

Oaks

As a group, the oaks may be considered the 'forgotten' landscape trees, but they should not be overlooked. Once established, oaks are dependable landscape trees. There are number of oaks that are native to Michigan. Acorns produced from oaks also make them good choices as trees that are useful for wildlife. Northern red oak (*Quercus rubra*) and White oak (*Quercus alba*) are among the most ubiquitous trees in the Lower Peninsula, but here are some other, somewhat lesser-known oaks to consider.

Tough guy. Bur oak is among the most drought hardy trees.

Quercus macrocarpa, Bur oak. The ultimate "tough tree for tough places". Bur oak is extremely drought hardy and can handle adverse sites. Bur oak is a large tree with good growth rates when young. It is a member of the White oak group with deeply lobed leaves. Occurs in the southern Lower Peninsula and westward to the Great Plains.

Quercus bicolor, Swamp white oak. As the common name implies, this tree can handle heavy soils and poor drainage better than most oaks. In many respects, this tree probably comes the closest to filling the role of ash in urban and community forests. This is a large tree that will grow where other trees may struggle. Range: Southern Lower Peninsula and upper Midwest.

Swamp white oak will grow where other trees may struggle.

Quercus muhlenbergii, Chinkapin oak. Another overlooked, but reliable tree. Chinkapin oak is part of the Chestnut oak group meaning it has leaves with serrated margins, similar to chestnut. It is adapted to alkaline soils and has better fall color than Bur or Swamp white oak. Occurs in the southern Lower Peninsula southward to Georgia and Texas.

Chinkapin oak is a good choice for alkaline soils. Photo: US Forest Service.

Quercus coccinea, Scarlet oak. Scarlet oak has a very limited and isolated distribution in the southern Lower Peninsula, so it is not mentioned in all guides on Michigan trees. Nevertheless this oak has outstanding and spectacular deep red fall color. Principal range is Pennsylvania southward to northern Alabama and Georgia.

Scarlet oaks provide outstanding fall color. Photo: Bert Cregg

Maples

Michigan has several native maples that make outstanding landscape trees. Maples, however, provide a good example for the 'look around rule' for diversity – before you select a tree, look around to see how widespread it is already. Many of our communities are already very heavy into maples.

Acer rubrum, Red maple. An outstanding landscape tree. Easy to grow. Tolerates wet and acidic soils. Spectacular fall color. Numerous named cultivars are available and trees produced from seed are available from nurseries specializing in native plants. Red maple occurs throughout Michigan and is among the most widespread hardwood trees, covering almost the entire eastern U.S.

Red maples provide some of Michigan's most vivid and consistent fall color.

Characteristic bark of Striped maple. Photo: Wikimedia Commons

Acer pennsylvanicum, Striped maple is a small tree best adapted to moist, cool sites. The common name derives from the striped appearance of the bark. It has rough textured leaves that turn bright yellow in the fall. Range: western Upper Peninsula and northern Lower Peninsula.

For more information

This article mentions just a few of the many Michigan trees that are useful for landscaping. Here are some sources of additional information:

- Michigan Trees: A Guide to the Trees of the Great Lakes Region by Burton Barnes and Warren Wagner, Jr.
- Trees of Michigan and the Upper Great Lakes by Norman Smith
- Trees of Michigan: Including Tall Shrubs by Linda Kershaw
- Native Plants of the Northeast by Donald Leopold
- USDA Forest Service Silvics of North America http://www.na.fs.fed.us/spfo/pubs/silvics_manual/table_of_contents.htm
- Michigan Native Plant Producers Association — Provides seeds, plugs, and liners from source-identified seed.

Dr. Bert Cregg is an Associate Professor in the Departments of Horticulture and Forestry at MSU. He conducts research and extension programs on management and physiology of trees in landscape, nursery, and Christmas tree systems.

Where do cultivars fit?

A question that often arises when discussing landscaping with native trees is, "Can cultivars be considered native?" From a strictly ecological perspective, say, for a habitat restoration project, cultivars have several key limitations. First, we typically don't know the geographic origin or provenance of most cultivars in the nursery trade. Almost all tree species that are native to Michigan have broad natural distributions. As a classic example, Red maple (*Acer rubrum*) occurs throughout the eastern U.S. from Minnesota to Florida and from Maine to Texas. Trees that originate from seed from these provenances can differ greatly. Provenance can affect a wide array of tree characteristics including date of budbreak, cold and drought hardiness, insect and disease resistance, and growth rate. Since we often don't know the seed source of cultivars, they can perform very differently from local trees of the same species. Also, in some cases cultivars have been selected for characteristics that impact their ecological value. For example, seedless cultivars may not provide the same value for wildlife as the native population of a species. Lastly, cultivars are usually clones, at least from the graft union up, so 100 cultivars will not contribute to local genetic biodiversity in the same way as 100 seed-produced trees of the same species.

So, where does that leave us? For most typical residential or commercial landscape installations there are still valid reasons to plant cultivars of native species. For clients that are concerned about invasive species it can be argued that a cultivar of a native species — even if it's not from a local seed source — has relatively little chance to become an invasive problem. Using cultivars, which are more uniform and consistent than trees from seed, may also result in broader use and acceptance of native species in traditional landscape settings. In addition, cultivars of native species can fill a market niche for those interested in trees from Michigan, but without the knowledge or interest to engage in a full habitat restoration project.