11: Swamp White Oak (*Quercus bicolor*)

When cut, the lumber of the swamp white oak is identical to white oak lumber. It differs in that the bottom side of its leaves are the whitest of all white oaks. As its name would suggest, it typically grows on wet sites, but is tolerant to drought.

12: Bur Oak (*Quercus macrocarpa*)

The bur oak is also a member of the white oak family, and is most commonly found in the west part of Ohio. With its large size it makes an excellent shade tree, and is easily identified by its large (sometimes golfball sized) acorns that have a cap which almost completely covers the fruit.

13: Pin Oak (*Quercus palustris*)

The pin oak is a member of the red oak family, and is easily identified by its leaves which are pointed and deeply lobed. It is tolerant to urban planting, and is the most common oak planted as a shade tree.

14: Red Oak (*Quercus rubra*)

The red oak is also known as the northern red oak, and is an important timber tree in Ohio. It produces a uniquely colored wood that is both strong and heavy. Unlike white oaks, red oaks do not produce a yearly acorn crop, but are still an important food source for wildlife because the acorns mature earlier than other oaks.

Sources:

"Common Ohio Trees" published by ODNR. (http://forestry.ohiodnr.gov/trees). Accessed April 26th, 2014.

S.P Letson, A. Sabula, and R.L. Romig. *"Ohio the many sides of the forest economy"*. Web. Published: August 2006. Accessed April 26th, 2014.

The Importance of Trees in Ohio

There is 8.1 million acres of forested land in Ohio which is equal to approximately 30% forest cover. Between the 300-400 million board feet of timber harvested annually and non-timber products such as maple syrup the forest industry contributes $15.1 billion to Ohio's economy, provides 119,000 jobs with annual payrolls of $4 billion. In urban environments such as The Ohio State University, trees offer many other benefits on top of the aesthetic beauty that they provide. Trees actively absorb and store CO2 which reduces The University's overall carbon footprint. The shade that trees provide reduce cooling costs in the summer, and the shelter they provide from wind helps lower heating costs in the winter. Trees also help filter storm water run-off which improves both our drinking water and aquatic habitat in nearby ecosystems. Air quality is also positively effected by trees, as they filter out pollutants and produce clean oxygen.

About this Pamphlet

The map in this pamphlet includes the locations of all trees on The Oval, and gives a visual representation of the number of native trees vs. non-native trees. Also included is descriptions for some of the native trees found on the oval. The highlighted trees do not represent every instance of a species on The Oval, and instead represent a small sample of trees that have been selected based on their size and brilliance.

This pamphlet was created by Jonathan Franko for educational purposes only



1: Red Maple (*Acer rubrum*)

Red maples are native to the entire eastern half of the United States, and frequently grow in moist soils. This tree's tolerance to a wide range of growing conditions, red flowers, and brilliant fall color have made it a popular shade tree.

2: Sugar Maple (*Acer saccharum*)

With fall colors varying between yellow, orange, and red, the sugar maple is favored as a shade tree. It is also valued for its sap which is used to make maple syrup, and for its lumber which has a wide range of uses.

3: Common Hackberry (*Celtis occidentalis*)

This tree frequently grows near bodies of water, and is easily identified by its warty, light grey bark. The common hackberry is tolerant to many of the poor growing conditions present in cities, and is well suited as an urban tree.

4: Green Ash (*Fraxinus pennsylvanica*)

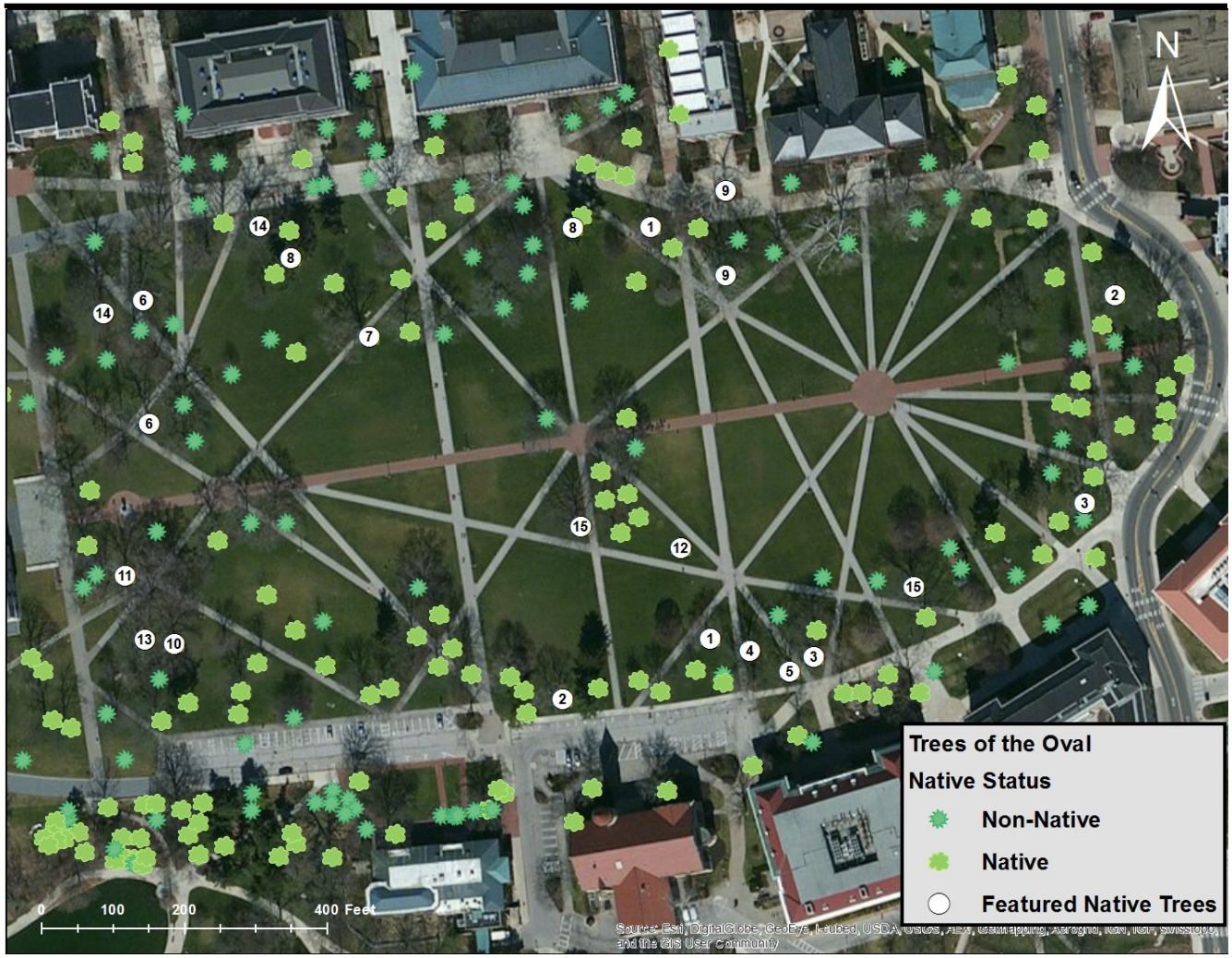
A very common and fast growing tree, the green ash was very frequently planted in urban environments. The Emerald Ash borer, a destructive invasive species, has devastated the ash population in Ohio, Michigan, Indiana, and Illinois.

5: Kentucky Coffeetree (*Gymnocladus dioicus*)

Most common in Western Ohio, the Kentucky coffeetree is easily identified by its large compound leaves in the summer, and its distinctive seed pods in the winter. The common name was given to the tree because pioneers used the beans to make a coffee substitute.

6: Black Walnut (*Juglans nigra*)

Common to wet sites, this tree has a very valuable wood that is both strong and light. It also produces a hard massed seed that provides a valuable food source to wildlife during winter.



7: Tuliptree (*Liriodendron tulipifera*)

Also known as the tulip poplar, or yellow poplar, the tuliptree grows extremely straight and tall. It is easily identified by its tulip shaped leaves, large flowers, and bark that is characterized by interlacing ridges on more mature trees.

8: Eastern White Pine (*Pinus strobus*)

Easily identified by its soft needles that occur in bundles of five, the white pine can be found throughout Ohio. In addition to being harvested for it's lumber and for paper production, it is also commonly planted as a landscape tree.

9: Sycamore (*Platanus occidentalis*)

The sycamore is among the largest and oldest trees on campus, with many being older than The University, and even The United States. It is easily identified by its bright white bark and large canopy.

10: White Oak (*Quercus alba*)

With wood that is strong, heavy, and suitable for many things such as barrel production, the white oak is the most important timber tree of all trees in the white oak group. Unlike red oaks, the white oak produces a yearly acorn crop.

Jonathan Franko
Map Project Proposal

For my map I would like to create a map showing trees native to Ohio that can be found on the Oval. There is currently a pamphlet created for a walking tour of the Oval that shows over 30 different types of trees, native and non-native. The purpose of this map will be to highlight just the trees that are native to Ohio. South east Ohio is part of the greatest resource for hardwood lumber in the world, and I would like to create an educational tool to be used by the arboretum that highlights that. I hope to create an educational tool that teaches how to identify the trees, as well as gives information such as uses, value, etc. It would be used by the arboretum in addition to their current Oval trees map.

I have an education in Forest Ecosystem Science and Management with an emphasis on ecosystems native to Ohio, so I feel that I am adequately prepared on the topic. Geographic context will be the Oval, which I am also familiar with. The biggest challenge will be understanding my audience. It won't be difficult for me to create a map that is too heavy on text, and therefore not interesting to the general public, so I will have to make sure I keep that in mind while creating the map. I plan on keeping it as simple as possible, and only covering at most 10 different trees. I believe that will adequately cover the major trees (at least ones that are present on the oval) while keeping the information light and easy to understand.

This map will be a brochure. The current map and other literature that the arboretum distributes are brochures, so I would like to stay consistent. It will also provide a medium that users can easily carry with them while they are on the oval.

The first piece of information I will need is going to be the location of the trees. This will be important so that the user can navigate to the trees marked on the map. The data for this will be easy to obtain, as the arboretum has GIS records of most campus trees. I plan on creating a separate shape file just for the trees on the Oval, selecting appropriate trees from those based on size, health, species, and location, and using those for my map. I will also need information for each species of tree to include in the brochure. I already have several books on tree id, as well as one focused on native trees of Ohio. I will also be able to find information on the internet. The last piece of information I will need is some sort of reference for the Oval. to make it easy for the user to determine where they are in relation to the trees. I do not plan on using a digitized version of the Oval because aerial photographs will do a much better job at representing other trees which can be a very valuable reference tool. The inventory that the arboretum conducted was done using 2009 aerial photographs, but newer ones are available. I plan on obtaining both and using the one that is the most consistent with the data they collected.