

Picking the Right Tree

What tree works best for each yard?



Summary

This presentation will cover the tree selection portion of the Volunteer Canopy Program. It will help you navigate questions from your neighbors while canvassing the chosen streets. Through this training, you will be able to answer questions about:

- finding the right tree for the area you want to plant
- the importance of native trees
- what trees are best for which environment



Right Tree, Right Place

How far away you should plant your tree.

Native Trees

Why do we plant native trees?

Know Your Yard!

Reserve a tree that will do well in your yard!

Right Tree, Right Place

Where should I plant in
my yard?

It is important to consider the height and diameter of the canopy when planting a tree as it could potentially grow into an obstruction.

Consider its proximity to:

- power lines
- house foundation
- AC unit
- sidewalks

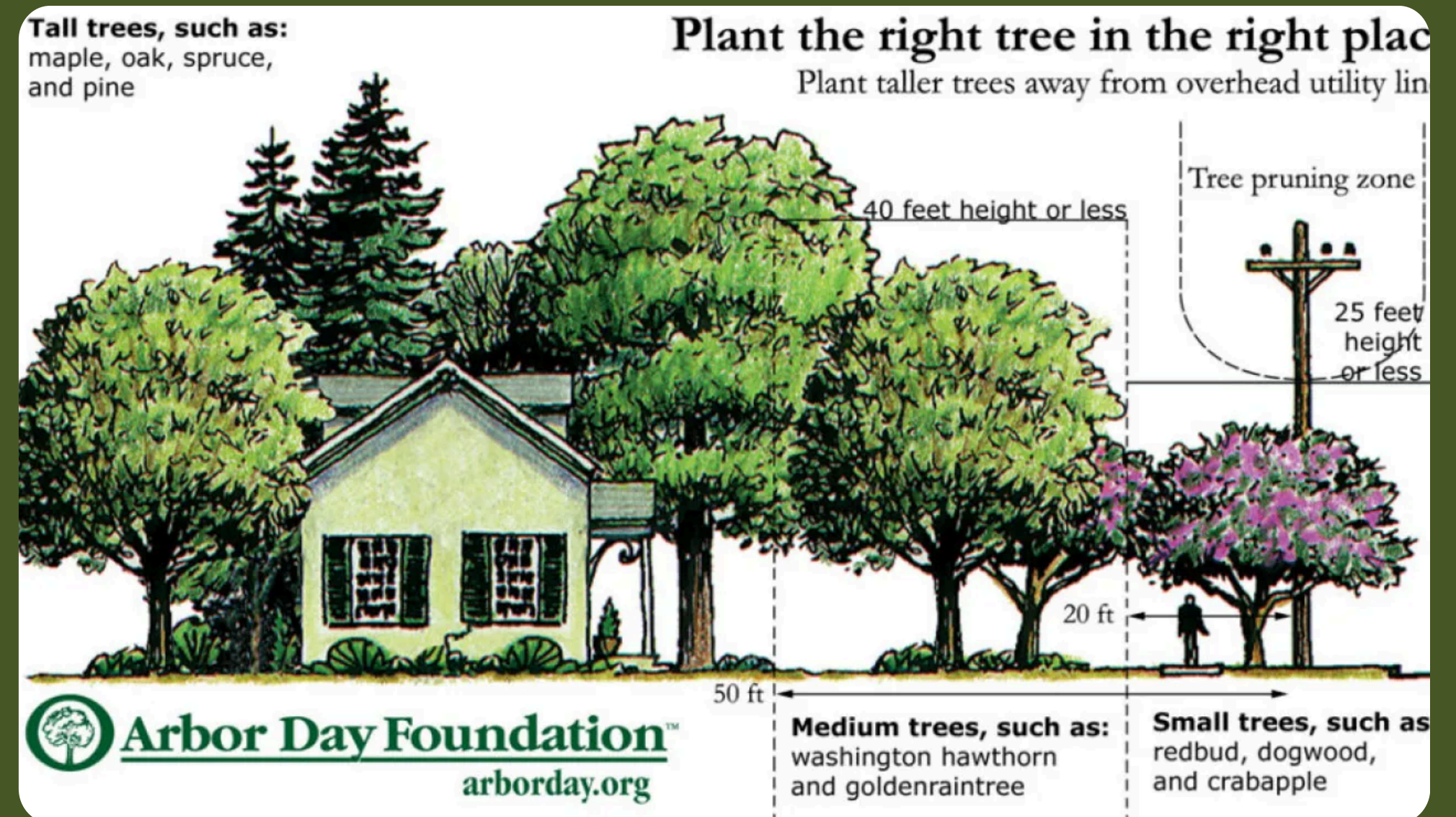


Right Tree Right Place

The **Right Tree Right Place** motto is a phrase that has been adopted by many tree care professionals.

Trees provide so many wonderful benefits, however, its growth is influenced by site conditions. It is essential that the right tree is selected for the site conditions so that it can live a long healthy life.

Trees can become affected by disease, need to be pruned too much or even die early if not planted in the right area for what it needs.



Distance to plant:

- Small trees (<25 ft) at least 8-10 ft away from structure
- Medium trees (up to 40 ft) at least 15 ft away from structure
- large trees (>40 ft) at least 20 ft away from structure

Good Example

Imagine there is a house on an acre of land with no trees on it.

A good example would be to place a large oak tree about 25 ft away from the house and away from the powerlines.

As it grows, it will shade the house and won't end up obstructing the house and its roots will have room to grow without damaging the foundation.



Bad Example

Imagine there is a house on an acre of land with no trees on it.

A bad example would be to plant an oak tree 15 feet away from the powerline and a flowering dogwood out in the middle of the yard with no shade.

As it grows the oak tree will have to be pruned heavily so it doesn't obstruct the lines and the dogwood will have a hard time growing in full sun and will likely get leaf scorch.





Importance of Native Trees

What are native trees?

Native trees are trees that are naturally occurring in this area and have evolved here without human introduction.



Why Native?

Native trees have evolved alongside other organisms (e.g. wildlife) within an ecosystem, and adapted to the unique environmental conditions. This creates reciprocal relationships wherein the ecosystem as a whole is built on mutual benefit through coevolution.

Native trees are much easier to establish because they require less care and are adapted to the weather, soil, and heat conditions of this area.

Some reasons for planting native are:

- easier to establish
- less maintenance
- essential to support wildlife
- balance the ecosystem



Native Trees and Wildlife



Key Stone Species

A keystone species is a species that is heavily relied upon within the ecosystem. For example, the oak genus provides for more life forms than any other tree species in North America. With food for over 500 species of caterpillars and thousands of insects, they are able to feed the entire food web as many larger species eat the the insects.

Essential to the Food Web

Native trees are essential to the food web because the nutritional needs of wildlife have adapted to the native trees to this area. Introduced species often don't provide enough nutrients for species to survive.



Invasive Species

This is a **mimosa** tree and although it is beautiful, it is highly invasive. It was brought over from Asia by Andre Michaux as an ornamental tree, but escaped cultivation where it now spreads throughout the southeastern US.



Invasive trees are species that have been introduced and are destructive to the environment. These species are very aggressive, out-compete native species and displace them from the ecosystem. This can cause unstable monocultures, severe biodiversity loss and ecosystem degradation.

Invasive trees are often able to outcompete native trees because they:

- lack natural predators because they did not evolve within the given system
- often produce a large number of seeds
- grow quickly
- are highly adaptable

Naturalized in Urban Areas

Some naturalized species are used in urban areas as cities provide a unique and highly stressed ecosystem. Some naturalized species can adapt better to harsh conditions than native species.

Urban trees often have to grow in:

- compacted soils
- air pollution
- extreme temperatures

However, this can be a slippery slope as many invasive species began as naturalized before becoming extremely aggressive after adapting to the environment. Although, not every naturalized species becomes invasive.



Naturalized Trees

Naturalized trees are non-native and have established themselves in the landscape, but are not invasive.

They are able to coexist with natives rather than outcompeteing them.

Although, they are not invasive, they often have much less cover and nutritional value for wildlife that native trees.



Choosing a Species!

When choosing a species to plant, it is extremely important that native is the first you look at as there are often beautiful native options that fit what you are looking for!

Here is a list of native alternatives to invasive plants provided by the Tennessee Invasive Plant Council!

https://www.tnipc.org/wp-content/uploads/2017/10/alternatives_printableweb2016.pdf

Know Your Yard

Consider what your yard is like

To give your tree the best chance at survival it is important to consider what your yard provides.

Trees have different growing needs like:

- soil type
- water availability
- light exposure



Soil Type

Most native trees have adapted to the soil type in the area they are from. However, different species require different levels of drainage for them to thrive. Soils are made up of a mixture of sand, silt, and clay in various amounts.



Soil Testing

To test your soil, please send a sample to the Soil, Plant and Pest Center

Full instructions here!
<https://knox.tennessee.edu/agriculture-programs/soils/>

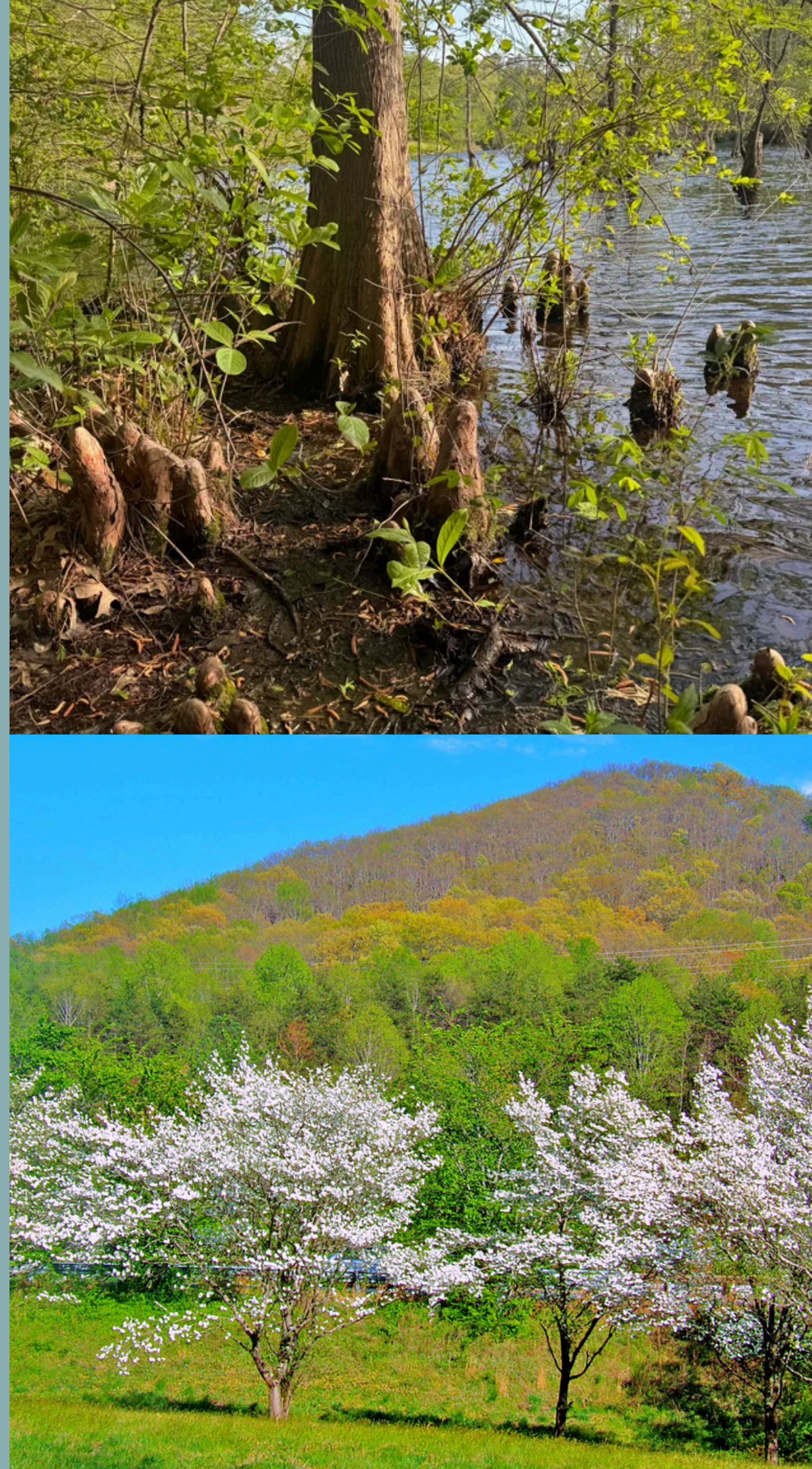


Water Availability

Different trees prefer different amounts of water. Some are accustomed to living in wetlands, streambanks and flood plains. However, some species are less tolerant.

Planting a tree outside of its preference can be detrimental to its growth.

For example, if you plant a redbud on the edge of the creek behind your house, it will most likely develop root rot! However a bald cypress does much better in water prone areas!



Water Preference

Water loving trees:

- River birch
- Sycamore
- Bald Cypress
- Red Maple
- Pecan

Water intolerant trees:

- Redbud
- Flowering Dogwood
- Southern Magnolia

Here is a list of common trees in East Tennessee with their shade and water preference:

<https://utia.tennessee.edu/publications/wp-content/uploads/sites/269/2023/10/SP656.pdf>

Sun Exposure

Consider how much sun your yard gets and plan where you will plant your tree accordingly! Shade loving trees can develop **leaf scorch** and have **stunted growth** if planted in full sun!

Shade Tolerant Trees

- Flowering Dogwood
- Silverbell
- Hornbeam
- Red Maple

Shade Intolerant Trees

- Tulip Poplar
- Oak Trees
- Willows
- Riverbirch
- Black Walnut



Fun Fact: The Tennessee state tree is a Tulip Poplar!

It was chosen because pioneers used the sturdy wood for houses, barns and canoes

They reach up to about 70-100 feet tall in standard landscapes but can get up to 190 ft in optimal forest conditions!.



Forest Structure

In the natural environment, forests have a structure made up of 4 levels:

- **Emergent layer:** this is made up of the tallest trees
- **Canopy layer:** A thick layer of trees that love sunlight
- **Understory layer:** trees are often shorter and prefer less sunlight
- **Forest Floor:** This is made up of shrubs, small plants and where most animals reside

When planting trees, it is important to remember how much sun they would naturally receive! Where would the tree grow naturally?

Layers of the Forest

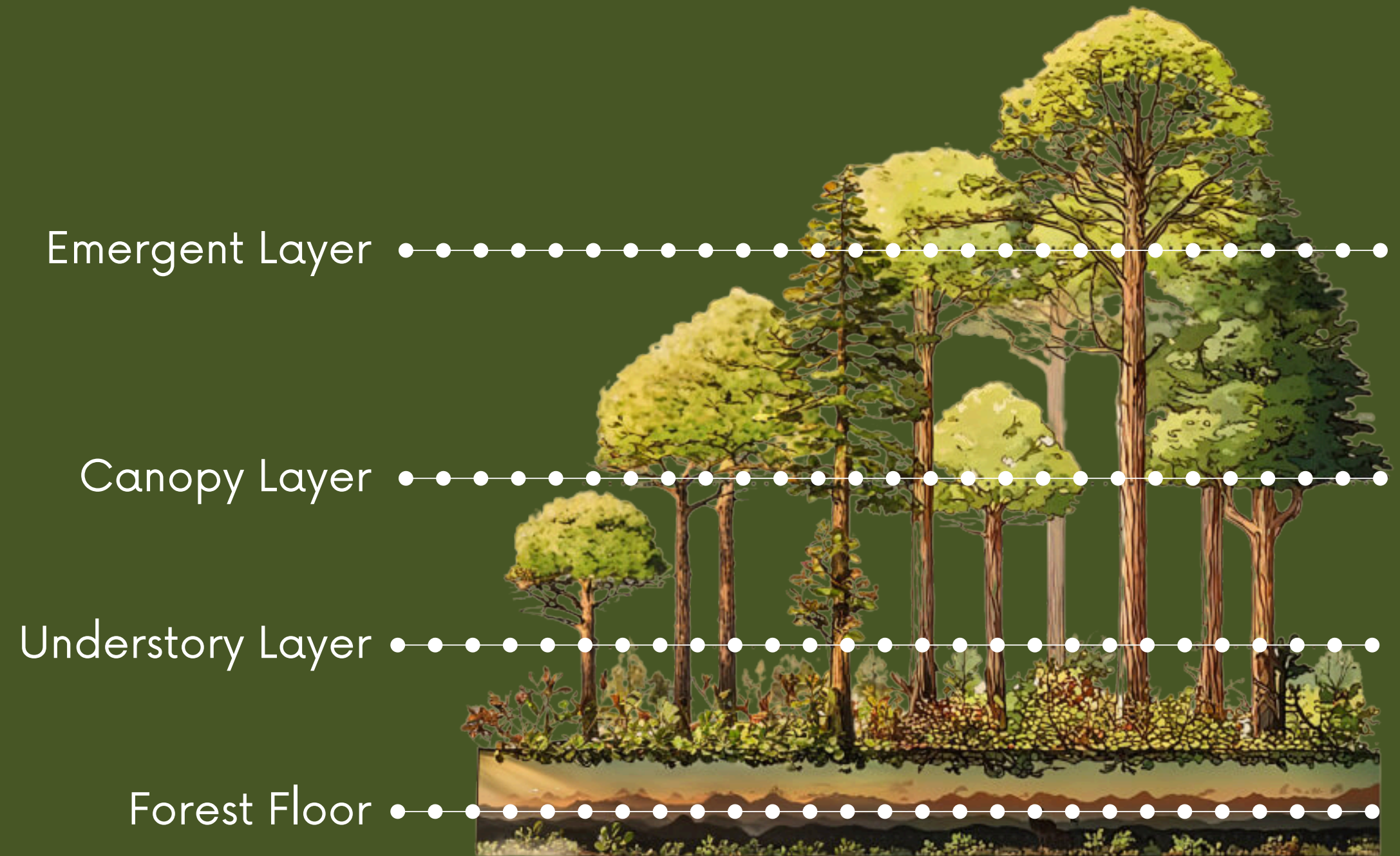


Image created by Planet Wild

Learn about Forest Canopy Structure:

<https://planetwild.com/blog/the-forest-canopy>

Learn More!

Species Spotlight - Oaks: <https://www.nps.gov/articles/species-spotlight-oaks.htm>

Plant the Right Tree in the Right Place: https://solutions.tennessee.edu/?view_pub_pdf=2040

Cornus florida (Dogwoods and Where to Plant): <https://plants.ces.ncsu.edu/plants/cornus-florida/>

Shade and Flood Tolerance of Trees: <https://utia.tennessee.edu/publications/wp-content/uploads/sites/269/2023/10/SP656.pdf>

Tennessee's Native Plant Alternatives to Non-Native Invasives: https://www.tnipc.org/wp-content/uploads/2017/10/alternatives_printableweb2016.pdf



Thank You!

Please feel free to contact
me if you have questions or
are just interested in
learning more!

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