

Measuring Tree Trunk Size or Diameter at Breast Height (DBH)

Why measure tree trunk size? Besides identifying the Diameter at Breast Height to determine if the tree is one of The Last 6000 Campaign trees with a trunk diameter of 30 inches or greater, tree trunk size also tells us about the amount of carbon dioxide a tree soaks up from the atmosphere, the amount of electricity it conserves by shading and cooling the local environment, and the amount of water it soaks up during a rainstorm.

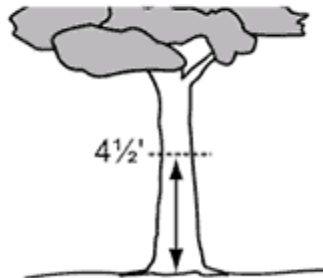
Diameter at breast height, or DBH, is the standard for measuring trees. DBH refers to the tree diameter measured at 4.5 feet, or 54 inches, above the ground.

You can find the diameter of the tree using a string, a measuring tape, a thumb tack, and a calculator.

Find a spot on the front of your body that is 4.5 feet from the ground. Use your measuring tape to find that spot, measuring from the sole of your shoe upward. Use a sticker or pin to mark the same spot on your clothing every time you map trees.

Approach the tree trunk. Use the spot on your body that is 4.5 feet from the ground to estimate the same height on the tree trunk. Wrap your measuring tape around the trunk 4.5 feet from the ground. Estimate to the nearest inch on the measuring tape. Record the circumference.

Figure 80-4
Measuring Tree Size for Existing Trees

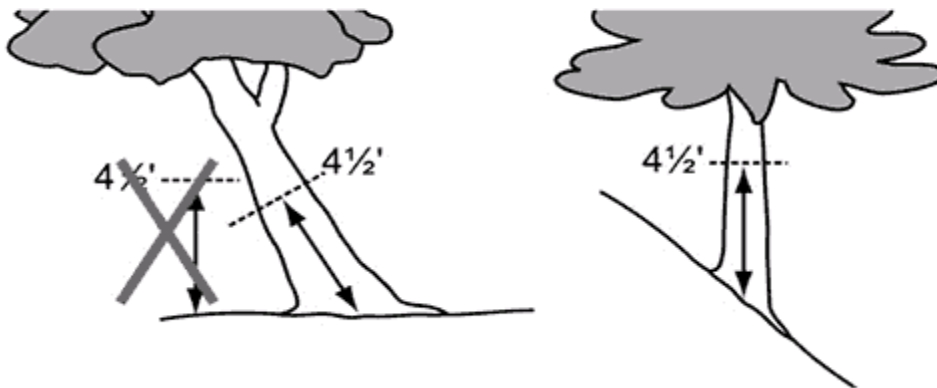


You can also use a string and a tack. Wrap your string around the tree trunk at 4.5 feet. Use a thumb tack to mark the height on the tree. Make sure the string is straight and tight around the trunk, and mark or cut the circumference on the string. Measure the length of string to get the circumference of the tree.

Convert the circumference measurement to diameter by dividing the circumference in inches by pi (3.14).

What if the tree is at an angle or is on a slope? When the trunk is at an angle or is on a slope, the trunk is measured at right angles to the trunk 4.5 feet along the center of the trunk axis, so the height is the average of the shortest and the longest sides of the trunk.

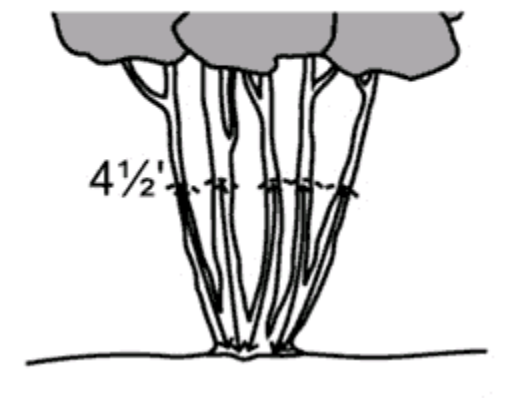
Figure 80-5
Measuring Existing Trees with an Angle or on Slope



What if the tree has two or more significant trunks branching apart 4.5 feet from the ground? Move your tape measure to the nearest point below the point where the trunk branches out. Measure the smallest circumference below the lowest branch. If the tree has a branch or a bump at 4.5 feet, it is better to measure the diameter slightly below or above the branch/bump.

What if the tree has multiple stems? For multi-stemmed trees, the size is determined by measuring all the trunks, and then adding the total diameter of the largest trunk to one-half the diameter of each additional trunk. A multi-stemmed tree has trunks that are connected above the ground and does not include individual trees growing close together or from a common root stock that do not have trunks connected above the ground.

Figure 80-7
Measuring Multi-stemmed Trees



Important Note

It is considered trespassing to go on private property without the permission of the person living there. So, don't enter private property to measure a tree's diameter without getting that permission.

It is fine to take a photograph of a majestic tree on private property from a public space like a sidewalk or public alley.

Measuring Trunk Size from A Distance

While measuring trunk size with a measuring tape is the gold standard for measuring a tree's diameter, sometimes that is not possible. The Last 6000 Campaign has researched different ways to make the estimation of width from a distance, such as from a sidewalk or public alley. Currently, we are studying two Smart Phone apps available for download. They both use trigonometry principles to make distance, height and width measurements.

The Easy Measure App for IOS (Apple) and Android operating systems provides a mode to estimate width. (The free download measures distance but the ability to measure width requires an additional add-on fee.) The Smart Measure Pro App for Android also provides a mode to estimate width. This additional feature also requires an add-on fee.

The following photo shows the screen view of a large tree being measured using the Easy Measure App. The screen view can be captured as a photo.

