



Forest Inventory Part II

So, the forest inventory breaks your land's forest area into **stands** of a specified number of acres – each representative of similar growing conditions (soils, aspect, slope position, and site index), as well as being composed of trees with similar qualities. Now, what might the inventory tell you about the trees within a given stand? First, the inventory should identify what tree species are in the stand (**species composition**). Also likely, the inventory will present information about the average size of the trees and a measure of their density, usually expressed on a per acre basis. Species composition and similarity of tree size are qualities that assist in forming and describing stands across a forest landscape.

Tree size is usually presented as **DBH (Diameter at Breast Height)**. This is the diameter of the tree at 4½ feet above the ground line, and is usually measured on the uphill side of the tree. Just a word of caution: this is the diameter, not the circumference. While this may sound silly, most all forestry tables use DBH and not the circumference. Usually the DBH is given as an average. Sometimes this will be presented in combination with a **count** of the number of trees having an average DBH, or an average DBH range (such as trees 12-14 inches, DBH). In any event, a good inventory will provide a count estimate of the number of trees per acre within a stand and in some fashion communicate their average DBH. The final piece that is often included in an inventory is the **basal area (BA)** per acre. This is usually presented as a total BA and the BA by tree species. Basal area is a measure of the cross-sectional area of the stumps of every tree in a stand and provides an assessment of the area of an acre occupied by trees, or species groups of trees. Together, DBH, Count, and BA provide a measure of **stocking density**. Ask your local Missouri Department of Conservation forester for a copy of *Forest Management for Missouri Landowners*. It contains figures and tables that will provide you with an estimate of stocking for a given forest stand.

A given site will only grow a certain number of trees of a given size (stocking). Typically, as trees get larger, fewer of them can sustain growth with the limited resources available on a site (water, nutrients and light). In general, the converse is also true; more trees of a small size can be grown on an acre. At some point the competition for a site's limited resources impacts the growth of the trees within a stand. Some trees will begin to die from resource competition. With the proper components, **an inventory and an interpretive management plan** can assist you in understanding the potential and the limitations of each of your forest stands. The inventory can also assist you in reaching the growth potential of your land by focusing your management efforts on trees best suited to the site conditions. A part of your management will likely include deciding when to reduce a stand's density (i.e. you thin the forest before natural processes thin for you) – all of which can help to keep the forest healthier and more productive.

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