Forest inventory

What is a forest inventory?

A forest inventory is conducted to collect data on timber volume (density), age, and tree species for the purpose of forest management planning, evaluating or harvesting. An inventory can also include forest value information such as wildlife features, soils and vegetation.

Calculating Basal Area

Basal area (BA) is considered the surface area of a tree stump cut off at 1.3. Basal area estimates how crowded the trees are in a given stand. it is measured in square metres per hectare (m^2/ha). If the calculated BA is greater than the optimum BA for the stand (20m^2/ha), it indicates that the stand is overcrowded and needs to be thinned.

Step 1: Using the Wedge Prism

1. At the center of your plot, place the prism at approximately 1.3 metres in height.
2. Move around your prism and count all the trees that are "IN"

Step 2: Identifying the Tree species

1. One, two or three members of the group will now apply their tree identification knowledge to determine the tree species. You will then enter this on your ***FOREST STAND ANALYSIS*** data sheet.

Step 3: Measuring the diameter at Breast Height

A diameter tape is more precise than callipers and measure the circumference of the tree. The units are in Pi units long in order to convert the circumference to diameter. The formula to convert the circumference to diameter is as follows:

$$c = \pi d \quad \rightarrow \quad d = \frac{c}{\pi}$$

1. Use the correct side of the tape in order to measure in cm
2. Keep the tape straight in order not to overestimate the diameter
3. Convert you circumference to a diameter
4. Determine if the tree is an AGS or a UGS tree
5. Record a dot in the correct column of your Forest Stand Analysis Data Sheet