

NFI Survey Manual Section 15: Diameter (DBH) Assessments

15.0 Diameter (DBH) Assessments

(From Matthews & Mackie (2006) Forest Mensuration, A handbook for Practitioners, FC, Edinburgh).

Tree and log diameters are conventionally measured overbark by a girthing tape, rounding down to the nearest whole centimetre. Rounding down is achieved automatically with the tapes of the type shown below. (The zero point on these tapes is the extreme edge of the brass rectangle or the point of the hook, according to the fitment, as shown in Figure 15-1. When measuring trees, in cases where the zero point is found to fall on the dividing line between two diameter classes, the higher diameter class should be used.) The girthing tape must always be taut and at right-angles to the stem or log.

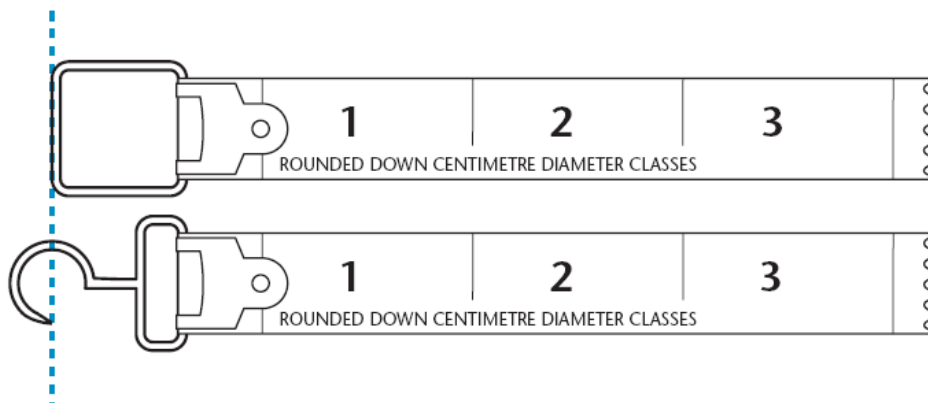


Figure 15 - 1: Examples of girthing tapes — the dotted line shows the zero point.

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15.1 Measuring diameter at breast height on standing trees

It is important to ensure that trees are girthed at a point on the tree 1.3 m above ground level, which is the diameter at breast height (dbh) point (see Figures 15-2 to 15-7).

It is recommended that a stick accurately measured to 1.3 m is used to locate the dbh point. Alternatively, a pin can be attached to the operator's clothing at this height. Always locate the breast height point on a tree from ground level and not from the top of a tree root. The only exception to this convention would be when measuring trees with extreme buttressing; such trees are rare in Britain.

15.2 Locating the correct dbh point.

On sloping ground, measure the diameter at 1.3 m from ground level on the upper side of the tree.

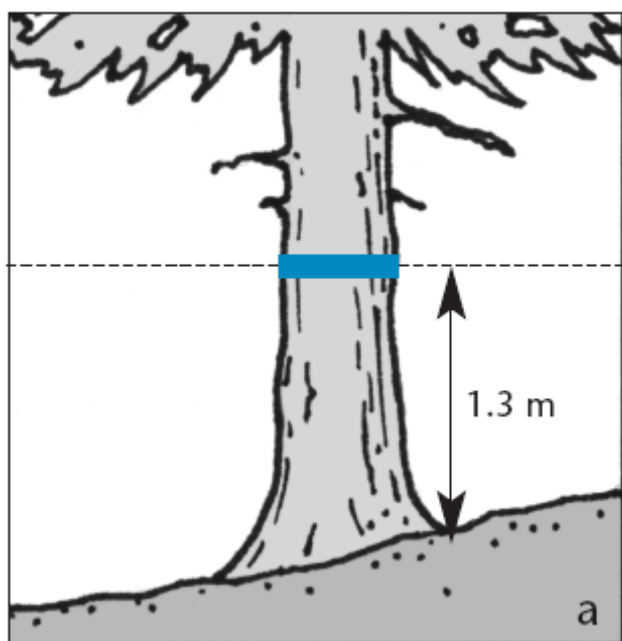
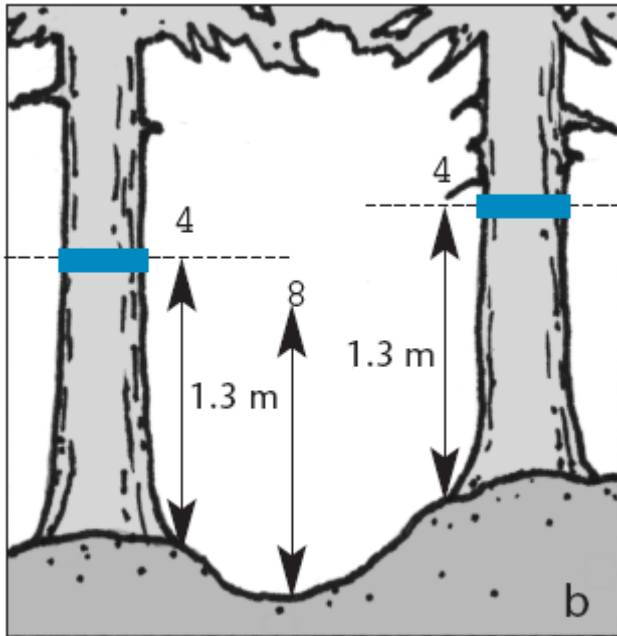


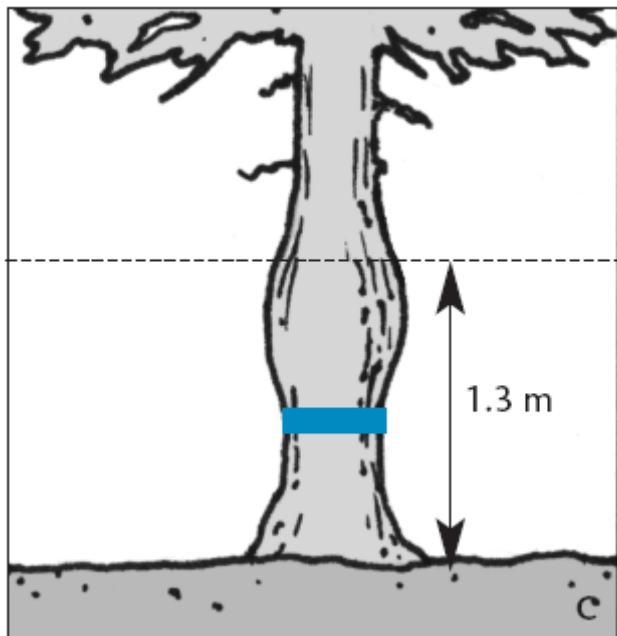
Figure 15 - 2: DBH measurement on sloping ground

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On uneven or ploughed ground, measure the diameter at 1.3 m from the ground level at the base of the tree.

Figure 15 - 3: DBH measurement on uneven and ploughed ground



Where a swelling occurs at 1.3 m above ground level, measure the diameter below the swelling at the point where the diameter is smallest. On trees that fork below 1.3m, treat each limb as a separate tree and measure the diameter of both trees.

Figure 15 - 4: DBH measurement on swellings

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On leaning trees, measure the diameter at 1.3 m from ground level on the underside of the tree, at right angles to the axis of the stem.

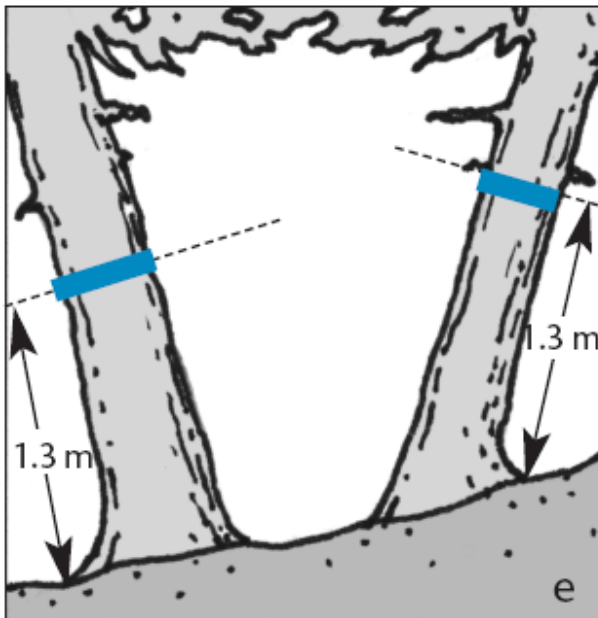


Figure 15 - 6: DBH on leaning tree (2)

On coppiced trees, measure the diameter at 1.3 m from ground level and not stool level.

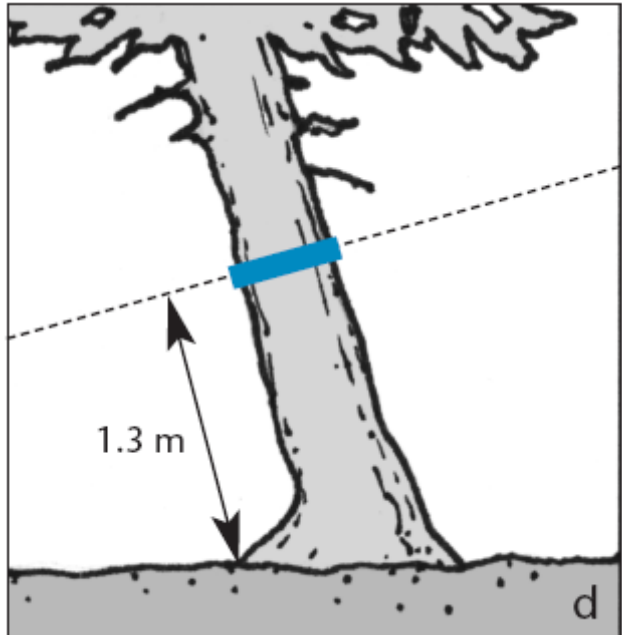


Figure 15 - 5: DBH on leaning tree (1)

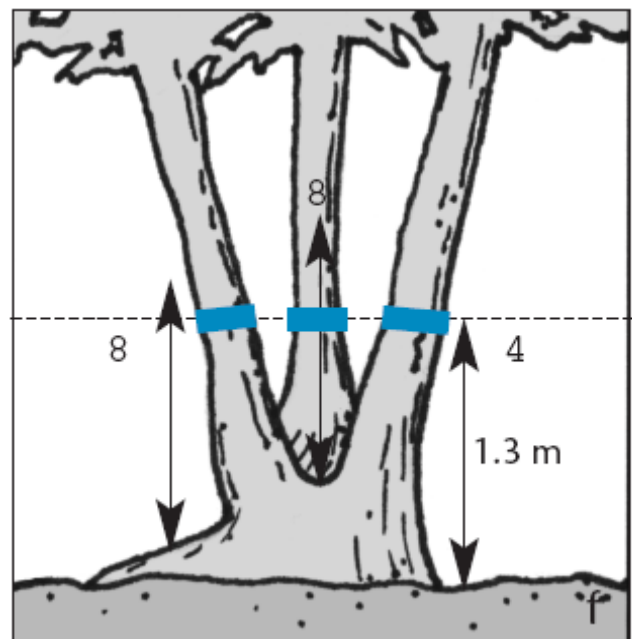


Figure 15 - 7: DBH on coppice trees

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On trees that fork below 1.3m, treat each limb as a separate tree and measure the diameter of both trees. On trees that fork at 1.3 m, treat as one tree and measure the diameter below the fork at the point where it is smallest.

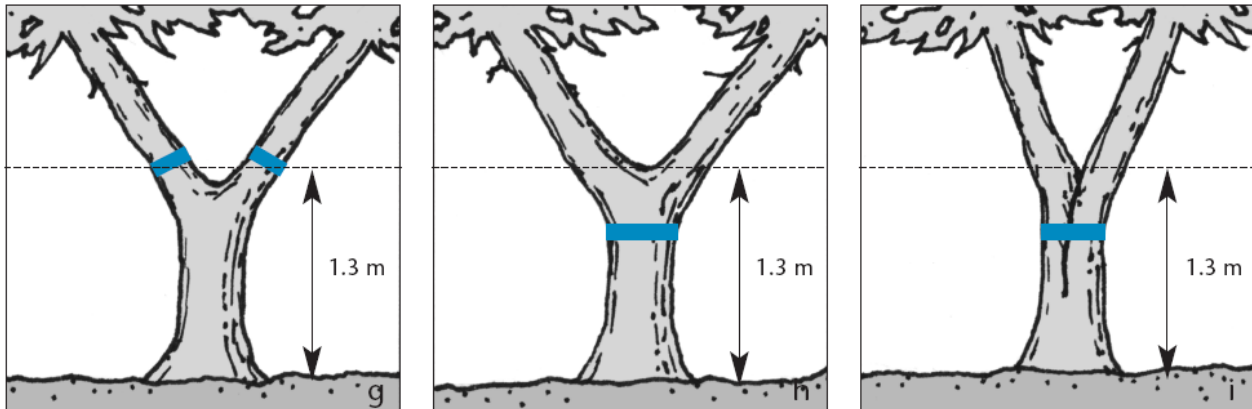


Figure 15 - 8: DBH where trees fork above, at and below 1.3m

On trees where the forks have fused up to and above 1.3 m, measure the diameter below 1.3 m where it is the smallest.