



Technical Glossary

A document defining some of the terms used in the 2011 Production Forecast technical documentation.

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Introduction

The following is a glossary of commonly used terms in the Forecast documentation. In some cases, the terms and the descriptions are “industry standard”, in others the terms are “industry standard” but have been used in the forecast with a “local meaning” and finally there are some terms which have been coined for the development of the forecast system.

Glossary

Term	Description or Definition
Area	Forest and woodland area can be defined as net forest area – the land actually covered by trees (in the National Forest Inventory and Forecast System defined as to the drip line of the canopy); and gross forest area which includes both the area covered by trees and the open spaces (of less than 0.5 hectares) within the forest boundary (<i>e.g.</i> rides, glades, ponds).
Basal area	The cross-sectional area of the stem of an individual tree at its breast height point. Alternatively, the sum of the basal areas of trees in an area of woodland.
Basal area per hectare	The sum of the basal areas of trees in an area of woodland expressed on a per-hectare basis.
Biological potential	A term applied to forecast scenarios broadly consistent with the objective of maximising timber production. It typically involves felling stands in the year of maximum MAI and Management Table thinning. It may not take account of factors that constrain thinning and felling, such as wind risk and pest infestation. The main biological potential forecast referred to in the published forecast reports involves constraints on thinning and times of felling to take account of wind risk.
Biomass	All of the material making up a tree, or group of trees, or specified tree components such as stem or branches.
Branch	The woody material of trees excluding the stem, stump and roots.

Term	Description or Definition
Component	This term has a number of uses within the production forecast (<i>e.g.</i> SCDB component, NFI component, surveyor component and growing stock component). In the majority of the Forecast Technical Documentation the term component is used to refer to the individual characteristics of the land within the sub-compartment. See also <i>sub-component</i> .
Crown	The branches and associated foliage of a tree.
Cubic metre (m³)	Unit of volume, usually used as the unit for measurements of tree stem volumes.
Cumulative volume production	The total production of timber volume from a forest stand from the time of establishment up to a given age and is usually expressed in cubic metres per hectare.
DAMS (Detailed Aspect Methodology Score)	A measure of exposure for a particular location. DAMS is sometimes used as a proxy indicator of the risk of catastrophic wind damage to a stand of trees. This may be used subsequently to make decisions about thinning and time of clearfelling.
DBH (diameter at breast height)	The diameter on the stem of a tree at 'breast height', <i>i.e.</i> 1.3 metres from ground level.
General yield class (GYC)	An index used in Britain of the potential productivity of even-aged stands of trees, based on assessment of stand age and top height.
Growing stock	A term broadly referring to the standing resource of living trees at a point in time.
Hectare (ha)	Unit of area equivalent to 100 metres x 100 metres = 10,000 square metres. 1 ha = 2.47 acres.
Increment (volume)	The increase in volume of a tree or a stand over a year or annualized over a specified period measured either in m ³ per year or in m ³ per hectare per year. See <i>mean annual increment (MAI)</i>
Like-for-like (restocking)	The restocking of areas of felled trees with trees of the same species and yield class.
M1	The stand-level growth and yield model developed by Forest Research which underpins the Forecast System.

Term	Description or Definition
Management Table thinning	The majority of Forestry Commission yield tables (which effectively represent a set of benchmarks for forest management) prescribe a sequence of thinnings over the life of a forest stand. Management table thinning refers to the pattern of thinning recommended in these yield tables. In standard yield tables the thinnings are set to an intensity which aims to maximise diameter increment whilst also maintaining maximum cumulative volume production. See <i>thinning intensity</i> .
Maximum MAI	The maximum value of mean annual increment for a forest stand as observed directly or estimated from Forestry Commission yield tables. Under UK conditions, maximum MAI is usually achieved after a number of decades. See <i>mean annual increment</i> .
Mean annual increment (MAI)	Mean annual increment is the average rate of volume production up to a given year, expressed in cubic metres per hectare per year. In even aged stands it is calculated by dividing cumulative volume production by age.
Mean dbh	The dbh corresponding to the mean basal area of the trees in an area of woodland.
Mensuration	The study of the measurement of lengths, areas, volumes and related quantities. Forest Mensuration is concerned primarily with the measurement of trees, woods and forests including standing and felled timber.
Numbers of trees per hectare	The number of trees in an area of woodland expressed on a per-hectare basis.
Oven dry tonne (odt)	Unit of mass. When applied to wood it represents the mass of wood in tonnes, not including the mass due to the water content of green wood (which may vary considerably).
Overbark	Used as a qualification when the diameter or volume of wood includes the bark. See also <i>underbark</i> .

Term	Description or Definition
Overstocked	A subjective term used to describe a stand composed of: <i>either</i> trees whose continued growth is constrained by competition between their crowns. <i>or</i> trees whose stocking density is greater than a specified target level, for example as obtained from a standard yield table. <i>or</i> both of the above. See <i>stocking density</i> .
Restocking plan	A plan describing details of how felled areas are to be replanted or regenerated (for example choice of species and target plant spacing).
SCDB/sub-compartment database	A live database used by the Forestry Commission to store detailed information about the composition of each <i>sub-compartment</i> within the public forest estate.
Stand	A distinct area of woodland, generally composed of a uniform group of trees in terms of species composition and the spatial distribution, age class distribution and size class distribution of the trees.
Standing volume	An assessment or estimate of the stem volume of a standing tree or group of standing trees. Stem volume is usually expressed in cubic metres overbark standing (m ³ obs). In the production forecast, standing coniferous volume is defined as live coniferous stemwood (see separate definition). It excludes small branches, foliage and deadwood. In the published reports, standing volume estimates for private sector woodlands exclude woodlands of less than 0.5 hectare.
Stem/stemwood	The woody material forming the above ground main growing shoot(s) of a tree or stand of trees. The stem is defined as including all woody volume above ground with a diameter greater than 7 cm over bark. Stemwood includes wood in major branches where there is at least 3 m of 'straight' length to 7 cm top diameter. See <i>stem</i>
Stocking/stocking density	Usually the number of trees in a given area. Usually expressed on a per hectare basis. Sometimes used to refer to basal area per hectare or volume per hectare.
Sub-compartment	A distinct parcel of land, distinguished from its neighbours through its overall land use, woodland

Term	Description or Definition
	composition <i>etc.</i> A <i>sub-compartment</i> may contain one or more <i>sub-components</i> .
Sub-component	Unique combination of stand description and intended management which is passed to the Forecast System for processing. See also <i>component</i> .
Terminal height	The top height of a stand at which wind damage is expected to reach a level necessitating clearfelling.
Thinning	The periodic harvesting of trees in a woodland, involving the removal of some trees for commercial utilisation and the retention of others for future production or long term retention.
Thinning intensity	A measure of the 'lightness' or 'heaviness' of a thinning, generally expressed in terms of the amount of timber volume per hectare removed relative to the growth rate of a forest stand.
Top diameter	The diameter of the smaller (top) end of a length of stemwood, branchwood or log, often used to define different categories of wood products (<i>e.g.</i> sawlogs, roundwood, pulp) and merchantable timber.
Top height	The mean <i>total height</i> of the 100 largest trees in a hectare of woodland. Usually assessed on a sample of the largest trees in a series of circular plots of 0.01 ha in area.
Total height	The vertical distance from ground level to the uppermost part of the tree.
Underbark	Used as a qualification when the diameter or volume of wood excludes the bark. See also <i>overbark</i> .
Understocked	A subjective term used to describe a stand composed of: <i>Either</i> trees with significant (and by implication 'unproductive') open space between their crowns <i>Or</i> Trees whose stocking density is less than a specified target level, for example as obtained from a standard yield table <i>Or</i> both of the above. See <i>stocking density</i> .

Term	Description or Definition
Volume/volume per hectare	The stem volume, expressed in cubic metres, to 7 cm top diameter over bark of an individual tree, group of trees or all the trees in a woodland.
XML	Machine-readable 'Extensible Markup Language', used to create a tagging system within plain text files in order to identify the content of different elements. XML is widely used on the world-wide web (especially for specifying the content and formatting of web-pages) and, because of its simplicity and flexibility, XML has been routinely employed within the Forecast System.
Year of Maximum MAI	The year or age at which a stand achieves, or is estimated to achieve, maximum MAI. Felling and re-establishing the stand at this age will achieve the highest average production per annum. See <i>maximum MAI</i> , <i>mean annual increment</i> .
Yield class	An index used in the UK of the potential productivity of even-aged stands of trees based on maximum MAI. See <i>maximum MAI</i> .