

Forestry Terms

Acre

A land area of 43,560 square feet, approximately 209 ft. by 209 ft.

Allowable cut

The volume of wood that can be cut during a given period without exceeding the forest's net growth.

Aspect

The compass direction towards which a slope faces.

Basal Area

- a. Of a tree: the cross-sectional area (in sq. ft.) of the trunk at breast height (4.5 ft. above the ground). For example, the basal area of a tree 14 inches in diameter at breast height is approximately 1 square foot. Basal area of a single tree = $.005454 \times (\text{DBH})^2$
- b. B. Of an acre of forest: the sum of basal areas of the individual trees on the acre. For example, a well stocked northern hardwood stand might contain 80 to 100 square feet of basal area per acre.

Board foot

A board foot is the amount of lumber in a board 1 in. thick, 1 ft. wide, and 1 ft. long. A board ft. is equivalent to 1/12 cu. ft. Simplified formula:

$$\text{Board feet} = \frac{\text{number of pieces} \times \text{inches thick} \times \text{inches wide} \times \text{feet long}}{12}$$

Example, find the number of board feet in three 2" by 4", 10 ft. long.

$$\text{Board feet} = \frac{3 \times 2 \times 4 \times 10}{12} = 20 \text{ board ft.}$$

Canopy

The layer of tree crowns in a forest.

Cleaning

Removing some trees in a very young stand to favor the remaining young trees of better quality.

Clearcut

A harvesting and regeneration technique which removes all the trees (regardless of size) on an area in one operation. Clear-cutting is most used with species like aspen which require full sunlight to reproduce and grow well. Produces an even-aged forest stand.

Commercial cut

A cut that yields a net income (product sale receipts exceed cutting cost).

Conifer

A tree belonging to the order of Coniferales, usually evergreen, cone bearing and with needles, awl or scale like leaves such as pine, spruces, firs, cedars, and tamarack: often called softwoods.

Cord

A stack of wood containing 128 cubic feet. A standard cord measures 4 feet X 4 feet X 8 feet.

Crop Tree

A tree identified to be grown to maturity and for final harvest cut. Usually selected on the basis of its location in the crown canopy and its quality.

Crown

The branches and foliage of a tree.

DBH

The tree diameter at breast height (4.5 ft. above the ground)

Deciduous tree

A tree which loses all its leaves at some time during the year.

Ecosystem

An interacting system of living organisms (plants and/ or animals), soil and climatic factors.

Even-aged forest

A forest of even-aged timber stands. The trees in each stand are essentially the same age (usually within 10 to 20 years).

Even-aged forest management

Forest management with periodic harvest of all trees on part of the forest at one time or in several cuttings over a short time to produce stands containing trees all the same or nearly the same age.

Forest Type

A group of tree species which, because of their environmental requirements and tolerances, commonly grow together. Three examples of forest types are beech-sugar maple type, white pine-hemlock type, white pine-red oak-red maple type.

Forestry

The science, art and practice of managing trees and forest and their associated resources for human benefit.

Hardwood

A term describing broadleaf deciduous trees such as oaks, maples, ashes, elms etc. Does not relate to the hardness of the wood.

Harvesting methods

Clearcut, seed-tree, selection and shelterwood.

Intermediate cut

Removing immature trees from the forest sometime between establishment and major harvest to improve the quality or maintain the growth rate of the remaining forest stand. An intermediate cut may

be commercial or non-commercial. The cut may produce income or it may cost the forest owner more than the income realized.

Mature tree

A tree that has reached the desired size or age for its intended use. Size or age will vary considerably depending on the species and intended use.

Multiple use

Land management for more than one purpose, such as wood production, water, wildlife, recreation, aesthetics and climate moderation.

Pole stand

A stand of trees with diameters ranging from 4 inches to approximately 10 inches.

Reforestation

Reestablishing a forest on an area where forest vegetation has been removed.

Release cutting

A cutting operation to release young trees (seedlings or saplings) from competition with other trees of the same size (a cleaning) or larger and overtopping trees (a liberation cut).

Reproduction

- a. Young trees which will grow to become the older trees in the future forest.
- b. B. The process of forest replacement or renewal. This may be done artificially by seeding or planting or naturally by sprouting or natural seeding.

Rotation

The number of years required to establish and grow trees to a specified size, product or condition of maturity.

Salvage cut

Harvesting dead trees or those in danger of being killed by insects, disease or the environment to save their economic value.

Sanitation cut

Harvesting or killing trees infected or highly susceptible to insects or diseases to protect the rest of the forest stand.

Sapling

A small tree, usually between 2 and 4 inches DBH.

Sawlog

A log large enough to produce a sawn product-usually at least 10 to 12 inches in diameter at the small end.

Second growth

Forest that originate naturally after removal of a previous, usually virgin stand by cutting, fire or other causes.

Seed-tree harvest cutting

Removing all trees from the harvest area at one time except for a few selected trees left to provide seed to establish a new forest stand.

Seedling

- a. A tree usually less than 2 inches in DBH which has grown from a seed (in contrast to a sprout).
- b. Nursery grown trees which have not been lifted and replanted in the nursery.

Seed year

A year in which a given species produces (over a considerable area) a large seed crop.

Selection harvest

Harvesting individual trees or small groups of trees at periodic intervals (usually 10 to 15 years) based on their physical condition or degree of maturity. Removes trees of every merchantable diameter class. Produces an uneven- aged stand.

Shelterwood harvest

Removing trees from a harvest area in a series of two or more cuttings so new seedlings can establish and grow in the partial shade and protection of older trees. Produces an even-aged stand.

Silviculture

The art, science and practice of establishing, tending and reproducing forest stands of desired characteristics based on knowledge of species characteristics and environmental requirements.

Site

- a. A tract of land with reasonably uniform soil and climatic factors.
- b. An area evaluated as to its capacity to produce a particular forest or other vegetation based on a combination of biological, climatic and soil factors.

Site preparation

Preparing an area of land for forest establishment, including cleaning, chemical vegetation control or burning.

Soil texture

The feel or composition of a soil based on the proportion of sand, silt and clay in the soil.

Sprout

A tree growing from the base, stump or root of another tree.

Stand

An aggregation of trees occupying a specific area and sufficiently uniform in composition (species), age arrangement, and condition as to be distinguishable from the forest on adjoining areas.

Stand, timber (type of)

- a. *Fully stocked*. A forest stand with all growing space effectively occupied but having ample room for developing crop trees.
- b. *Mixed*. A stand having less than 80 percent of the trees in the main crown canopy of a single species.
- c. *Old field*. A stand on land once used for agricultural crops or for pasture.
- d. *Overstocked*. Overcrowding in a stand leading to retarded growth.
- e. *Pole-timber*. A stand with most trees from 4 to 10 inches in diameter.
- f. *Pure*. A stand with at least 80 percent of the trees in the main crown canopy of a single species.
- g. *Residual*. The stand remaining after any type of cutting.
- h. *Sawtimber*. A stand with most trees large enough in diameter (usually 10 to 12 inches DBH or larger) to be sawn into lumber.
- i. *Understocked*. A stand with the growing space not effectively occupied by trees intended for harvest.

Stocking

The number of trees in a forest stand. Often, stocking level is compared to the desirable number of trees for best growth and management, such as partially stocked, well-stocked or over stocked.

Succession

The replacement of one plant community by another until ecological stability is achieved.

Sustained Yield

Management of forest land to produce a relatively constant amount of timber and/or revenue on a long-term basis.

TSI (Timber Stand Improvement)

Improving the growth and/or species makeup by removing the less desirable trees, vines and, occasionally, large shrubs.

Thinning

Generally a cutting in an immature forest stand to reduce the tree density and concentrate the growth potential on fewer, higher quality trees resulting in larger that maintain a good growth rate.

- a. *Commercial*. A thinning that pays for itself and then provides a profit for the owner.
- b. *Natural*. A natural process whereby a tree's branches or the trees themselves die as a result of root and/or crown competition.
- c. *Row*. A plantation thinning with specified rows removed regardless of size.
- d. *Selection*. A thinning with individual trees selected for removal.

Tolerance

A tree's capacity to develop and grow in the shade of, and in competition with other trees.

Tree

A woody perennial plant having a well defined stem, more or less definitely formed crown and usually can grow to a height of 20 feet.

Uneven-aged forest

A forest with trees of many ages (technically more than two age classes) and considerable differences in the ages.

Uneven-aged forest management

Managing a forest by periodically removing some trees from an uneven-aged stand while preserving its natural appearance. Removal of trees occurs in each merchantable diameter class to continually maintain and encourage multiple age class. Each cutting is designed to create opening that encourage regeneration and enables understory vegetation to grow because of the increased amount of light penetrating the understory.

Wolf Tree

A tree occupying more space in the forest than its economic value justifies. Usually older, larger or with more branches than other trees in the stand.