

A Glossary of Forestry Terminology*

Acre – A land area of 43,560 square feet (About 209 by 209 feet).

All-aged (or uneven-aged) forest management – Management of a forest by periodically removing some trees from the stand. (See also even-aged forest management.)

Allowable cut – Volume of wood that can be cut during a given period without exceeding the forest's net growth.

Alluvial – Pertaining to material that is transported and deposited by running water.

Anadromous fish – Those species of fish which mature in the sea and migrate into streams to spawn. Salmon, steelhead, and shad are examples.

Aspect – Compass direction towards which a slope faces.

Basal area – A. Cross-sectional area (in square feet) of the trunk *of one tree* at breast height (4.5 feet above the ground.) For example, the basal area of one tree 14 inches in diameter at breast height is approximately 1 square foot. B. *The sum of basal area of the individual trees on an acre of forest.* For example, a well stocked mixed redwood stand might contain (a total of) 500 square feet of basal area per acre.

Biological diversity or biodiversity – Refers to the variety of life. It encompasses the number and type of plants and animal species in a given area, as well as the interactions among them. Biodiversity recognizes the importance not only of individual organisms but also the connections and relationships among individuals that permit them to function and thrive as a community or ecosystem.

Board foot – A unit of measure for wood volume equaling 144 cubic inches, commonly used to measure and express the amount of wood in a tree, sawlog, veneer log or individual piece of lumber. For example, a piece of wood 1 foot by 1 foot by 1 inch or one measuring 1 foot by 3 inches by 4 inches both contain 1 board of wood.

Bole – Main tree trunk.

Breast height – See DBH.

California Forest Practice Act (Rules) – Also known as the “Z’berg-Nejedly Forest Practice Act of 1973.” This legislation initiated the forest practice rules in California that, when followed, will allow maximum sustained production of

timber, while giving consideration to values such as recreation, watershed, wildlife, range and forage, fisheries, and aesthetic enjoyment.

Canopy – Layer of tree crowns in a forest.

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

Commercial cut – A cutting on a forested property that yields a net income (when product sale receipts exceed cutting cost).

Competition – The struggle for environmental resources among trees that require the same resources on the same land area, usually at the same time. *Crown:* Competition above ground for light, heat, carbon dioxide, space, and perhaps, oxygen. *Root:* Competition for soil, water, nutrients, oxygen, and space.

Conifer – A tree belonging to the order Coniferales – usually evergreen, cone-bearing, and with needles, awl, or scalelike leaves- for example, pine spruces, firs, cedars, and redwood; often called “softwoods.”

Conservation – Protection, improvement and wise use of natural resources to assure the attainment of their highest economic and social values in perpetuity.

Cord – A stack of round or split wood containing 128 cubic feet. A standard cord measures 4 feet by 4 feet by 8 feet. A face or short cord is 4 feet by 8 feet of any length wood less than 4 feet. A cord contains about 85 to 90 cubic feet of actual wood and is roughly equivalent to 500 board feet of wood.

Crop tree – A tree identified as mature and ready for final harvest cut. Usually selected on the basis of its location to other trees and its quality.

Crown – Branches and foliage of a tree.

Crown class – Any class into which the trees forming a crop or stand may be divided on the basis of both their crown development and crown position relative to the crowns of adjacent trees and the general canopy. For example, dominant, co-dominant, intermediate or suppressed.

Cruise – A survey of forest land to locate timber and estimate its quantity by species, products, size, and quality, or other characteristics; the estimate obtained in such a survey.

Cubic foot - A unit of measure for wood volume containing 1,728 cubic inches – for example, a piece of wood measuring 1 foot on a side. A cubic foot of wood

contains approximately 6 usable board feet of lumber rather than 12 board feet because wood is lost as sawdust and shavings during processing.

Cull – A tree or log of merchantable size useless for all but perhaps firewood because of shape, disease, insect infestation, or injury.

Cutting cycle – Planned time interval between major harvesting operations in the same stand, usually in uneven-aged stands. For example, a cutting cycle of 10 years means a commercial cut every 10 years.

DBH – Tree diameter at breast height (4.5 feet above the ground).

Defect – That portion of a tree or log unusable for the intended product and therefore, not measured. Defects are rot, crookedness, cavities, and excessive limbiness.

Diameter – Tree diameter is usually measured 4.5 feet above the average ground level (see DBH).

Ecosystem – An interacting system of living organism (plants and animals), soil, and climatic factors. A forest is an ecosystem.

Environment – Prevailing conditions reflecting the combined influences of climate, soil, topography, and biology (other plants and animals) in an area. Environmental factors determine how well a particular species will grow in a given area.

Even-aged forest – A forest of trees all essentially the same age (within 10-20 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. In California, this type of management is commonly applied to conifers using the clearcut, seed tree, or shelterwood silvicultural systems (see definitions). (See *also all-aged or uneven-aged forest management.*)

Forest – A plant community with trees and other woody plants dominating.

Forest management – Giving the forest proper care so that it remains healthy and vigorous and provides the products and amenities the landowner desires. *Technical:* Applying technical forestry principles and practices and business techniques (such as accounting and benefit-cost analysis) to forest management.

Forest type – A group of tree species that, because of shared environmental requirements and tolerances, commonly grow together. Three examples of forest types are the mixed conifer, true fir, redwood and Douglas-fir.

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

Habitat – Local environment of a plant or animal.

Harvest – As generally used, to remove all or portions of the trees in an area. *Technical definition:* To remove trees in an area (1) for financial gain; (2) to develop the environment necessary to regenerate the forest; and, (3) on occasion, to achieve some special objectives, such as the development of special wildlife habitat needs. Contrast with intermediate cut.

Hardwood – A term describing broadleaf (usually deciduous) trees such as oaks, maples, ashes, eucalyptus, and elms. Not necessarily the hardness of the wood.

IHV – (Immediate Harvest Value). Stumpage values determined by the State Board of Equalization from many timber sales in each timber value area and influenced by species, age, logging method, and volume harvest.

Increment borer – A hollow, auger-like instrument used to bore into the tree trunk to remove a cylindrical cross section of the tree's growth rings.

Intermediate cut – Removal of immature trees from the forest sometime between establishment and major harvest to improve quality of the remaining forest stand. Contrast with harvest cut. An intermediate cut may generate income (commercial cutting), or may cost the forest landowner more than income realized (a pre-commercial cutting).

Log – A piece of woody stem (trunk or limb) of a tree. The trunk portion of a tree.

Log rule – A device, usually in tabular form, that expresses log volume content based on log diameter (inside the bark of the small end) and length. The Scribner Rule is the legal rule in California and is most often used.

Log scaling – measuring logs to determine their volume.

Lop – To sever and sometimes scatter branches, tops, or small trees after felling, leaving the slash closer to the ground.

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, intended use, and markets.

MBF – Thousand board feet.

Multiple use – Land management for more than one purpose.

Plantation – An artificially reforested or afforested area established by planting or direct seeding. Contrast with a forest stand established naturally.

Pole stand – A stand of trees whose diameters range from 4 inches to approximately 12 inches.

Riparian – Referring to the land bordering a stream, lake or tidewater.

Reforestation – Re-establishing a forest on an area where forest vegetation has been removed.

Reproduction – (A) The growth process whereby young trees become the older trees in the future forest. (B) The process of forest replacement or renewal – either artificially by seeding or planting or naturally, by sprouting or natural seeding.

Roots – That portion of the tree, generally underground, which absorbs nutrients, anchors, and stores food and waste products.

Salvage cut – Harvesting trees that are infected by 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 breast height.

Scribner's Rule – A diagrammatic log rule developed over 100 years ago to estimate the volume of a log assuming a $\frac{1}{4}$ inch saw kerf and no definite slab allowance. However, the Rule more accurately estimates product output rather than log volume.

Second growth – A loose term for a young stand, or smaller trees, left after cutting. Also, residual trees available for another logging on the same area.

Seed-tree harvest system – Removal of all trees from the harvest area at one time except for a few scattered trees left to provide seed to establish a new forest stand. California Forest Practice rules specify the number and size to be left per acre.

Seedling – (A) A tree, usually less than 2 inches DBH, that has growth from a seed not a sprout. (B) Nursery-grown trees that have not been lifted and replanted in the nursery.

Selection harvest system – Harvest of individual trees or small groups of trees at periodic intervals (usually 8 to 15 years) based on their physical condition or degree of maturity. Produces an uneven-aged stand.

Seral – A biotic community which is a developmental transitory stage in an ecologic succession.

Shelterwood harvest system – Removal of trees on the harvest area in a series of two or more cuttings so that new seedlings can establish and grow in the partial shade and protection of older trees.

Silvicultural system – A process, following accepted silvicultural principles, whereby the crops constituting forests are tended, harvested, and replaced, resulting in the production of crops of distinctive form. Systems are conveniently classified (for example, clearcut) according to the method of carrying out the fellings that remove the mature crop with a view to regeneration and according to the type of crop produced.

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

Site index – An expression of forest site quality based on the height of the dominant trees at a specified age, usually 50 or 100 years.

Site preparation – Preparing an area of land for forest establishment, including mechanical clearing, vegetation control, or burning.

Skid – To pull logs from the stump to the skid trail or landing.

Slash – Residue left on the ground after logging, pruning, or other forest operations. Includes tree tops, branches, or bark.

Softwood – See conifer.

Soil texture – The feel or composition of 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. Coastal redwoods sprout vigorously.

Stand (timber types) – A community of trees of sufficient uniformity, with respect to composition, age spatial arrangement or condition, to be distinguished from adjacent communities, so forming a management entity. *Fully stocked*: A forest stand with all growing space effectively occupied but have ample room for crop development. *Mixed*: A stand having less than 80 percent of the trees in the main crown canopy of a single species. *Overstocked*: Overcrowding in a stand leading to retarded growth. *Pole-timber*: A stand with most trees from 4 to 8 or 12 inches in diameter. *Pure*: A stand with at least 80 percent of the trees in the main crown canopy of a single species. *Sawtimber*: A stand with most trees large enough in diameter (usually 10 to 12 inches DBH or larger) to be sawn into lumber. *Understocked*: A stand with the growing space not effectively occupied by potential crop trees.

Stocking level – Number of trees in a forest stand. Often, stocking level is the term used for the desirable number of trees at a given age for best growth and management against which comparisons can be made, such as partially-stocked, well-stocked, or over-stocked.

Stumpage – Value or volume of a tree or group of trees as they stand in the woods uncut (on-the-stump).

Succession – Replacement of one plant community by another until a climax ecosystem is achieved.

Sustained yield – The yield that a forest can produce continuously at a given intensity of management. Sustained yield management implies continuous production so planned as to achieve at the earliest practical time a balance between increment and cutting.

Thinning – Generally, a cutting in an immature forest stand to reduce the tree density and concentrate the growth potential of fewer, higher quality trees resulting in larger trees with faster growth. *Commercial*: A thinning that pays for itself and then provides a profit for the owner. *Natural*: A natural process whereby a tree's branches or the tree itself dies as a result of root or crown competition. *Pre-commercial*: A cutting, which does not yield a net income, usually because the trees cut are too small, poor quality, or not marketable. *Row*: A plantation thinning with specified rows removed regardless of size. *Selection*: A thinning with individual trees selected for removal.

THP (Timber Harvesting Plan) – As a result of Article 7 of the "Z'berg-Nejedly Forest Practice Act" of 1973, a THP is required for timber operation to take place on land other than federal land within the State of California. Timber operations include the cutting or removal of both timber and other solid wood products from timberlands for commercial purposes.

Intent of the legislation is to restore, enhance, and maintain the productivity of California's timber, watershed, range and forage, fisheries, and aesthetic enjoyment.

Tolerance – A tree's capacity to develop and grow in the shade of other trees.

TPZ (Timberland Production Zone) – Created by the "California Taxation Reform Act" of 1976, TPZs were established so that forest landowners would not pay property tax on the basis of the land's "highest and best use." TPZ land is restricted to the growing and harvesting of timber and compatible uses. Lands qualify on the basis of size (minimum sizes are determined by the county in which the land is located) and productivity, as determined annually by the State Board of Equalization for different forest types and sites.

Tree – A woody plant having a well-defined stem, more or less definitely formed crown and usually at least 20 feet tall.

Tree farm – A privately-owned forest in which producing timber crops is a major management goal. Additionally, it may be recognized as a "Tree Farm" by the American Tree Farm System, an organization sponsored by the American Forest Foundation.

Volume table – A table estimating volume of wood in a standing tree based on measurements of the tree, most commonly DBH and merchantable height.

Windfall, windthrow, (blowdown) – An area or group of trees blown over by high wind.

Yield table – A tabulation of volume, basal area, and DBH for forest stands of specified site and age, showing its growth pattern.

Yield tax – Created by the "Forest Taxation Reform Act" of 1976, yield tax is a one-time tax on timber when it is harvested. The tax rate is applied to the value per volume harvested in different timber value areas throughout the state. For example, if the tax rate is 2.9 percent for each 1,000 board feet (MBF) of timber harvested and valued at \$500 per thousand board feet on the stump, the yield tax would be \$14.50. The tax is based on the IHV.

*Adapted from "A glossary of forestry terminology, agencies, and programs". 1982. Leaflet 21319. Division of Agriculture and Natural Resources, University of California. The definitive text on forest terminology is published by the Society of American Foresters.