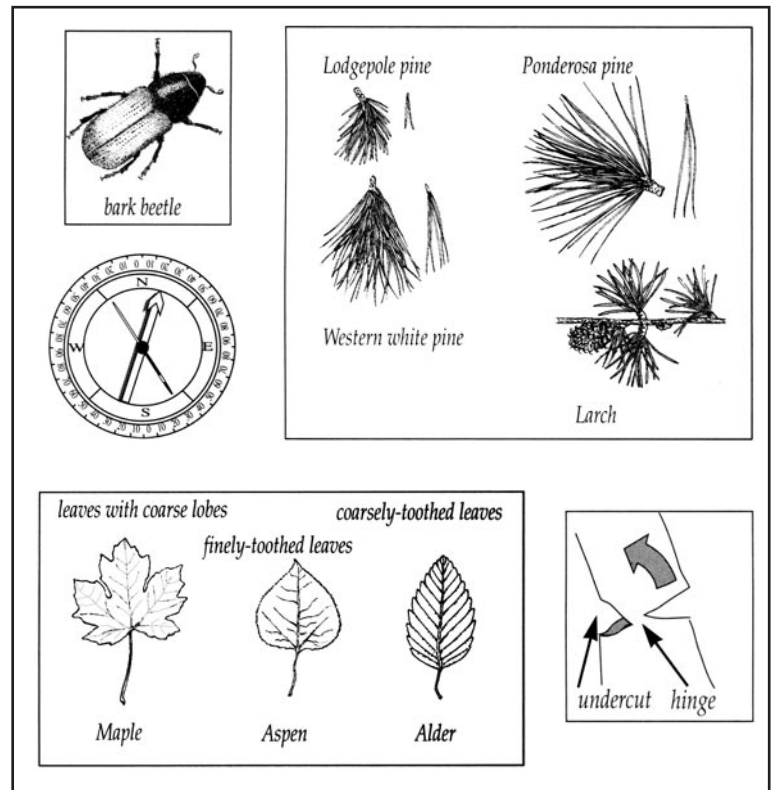




Glossary of Forestry Terms

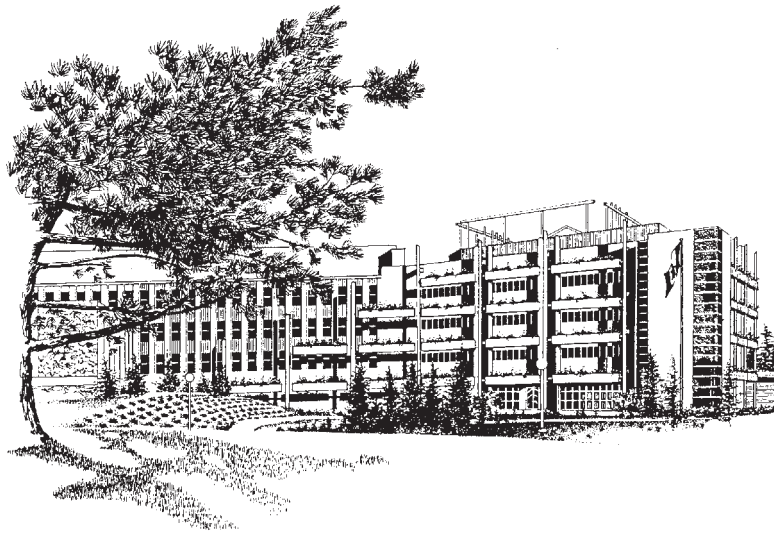


Pacific Forestry Centre
Victoria, British Columbia



Forestry Canada Forêts Canada

Canada



The Pacific Forestry Centre, Victoria, British Columbia

The Pacific Forestry Centre of the Canadian Forest Service undertakes research as part of a national network system responding to the needs of various forest resource managers. The results of this research are distributed in the form of scientific and technical reports and other publications.

Additional information on Natural Resources Canada, the Canadian Forest Service, and Pacific Forestry Centre research and publications is also available on the World Wide Web at <http://www.pfc.cfs.nrcan.gc.ca/>.

Glossary of Forestry Terms

Published by Forestry Canada,
Pacific and Yukon Region

Revised 1993
(PDF Version created November 2000)

A previous version of this glossary originally appeared as an appendix to “Managing Your Woodland: a non-forester’s guide to small scale forestry in British Columbia”, published under the Canada-British Columbia Forest Resource Development Agreement (FRDA)

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Forestry, like any profession, has special terms (and special meanings for some common words like 'crown' and 'chain') to describe its practices. Often there are formal and less formal definitions in use, but in some cases there are many levels of definition for specific terms.

The glossary that follows has tried to define as simply as possible common forestry terms. The definitions are more explanatory than definitive, and are not always comprehensive. More formal definitions can be found in several of the manuals (Silviculture, Policy, Inventory, Protection) produced by the B.C. Ministry of Forests.

Additional recommended reference glossaries include: "A Guide to Canadian Forest Inventory Terminology and Usage". 1978. Bonnor M., Canadian Forestry Service; "The Woodland Workbook - Glossary of Woodland Words". 1983. Extension Circular 1155, Oregon State University Extension Service; "Terminology of Forest Science, Technology, Practice & Products". 1971. Society of American Foresters, Washington, D.C.

advance regeneration: Trees that have become established naturally under a mature forest canopy and are capable of becoming the next crop after the mature crop is removed.

adverse slope: An uphill incline for hauling or skidding of logs or other loads.

aerial photography: Photos taken from the air at regular intervals and used in photo interpretation to provide much information about forests and landforms.

age class: Any interval into which the age range of trees, forests, stands or forest types is divided for classification and use. Forest inventories commonly group trees into 20-year age class groups.

agro-forestry: The practice of raising trees and agriculture products such as forage and or livestock on the same area at the same time.

amortization: A procedure by which the capital cost of projects, such as roads or bridges, is written off over a longer period as the timber volumes developed by the projects are harvested and extracted.

annual allowable cut (AAC): The average volume of wood which may be harvested annually from a particular area under sustained yield management. Usually expressed as cubic metres of wood.

artificial regeneration: Establishing a new forest by planting seedlings or by direct seeding (as opposed to natural regeneration).

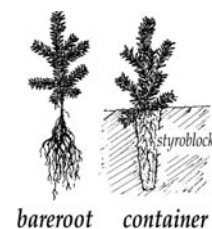
aspect: The direction toward which a slope faces.

azimuth: The horizontal angle or bearing of a point measured from the true (astronomic) north. Used to refer to a compass on which the movable dial (used to read direction) is numbered in 360°. See *bearing and compass*.

backlog: A Ministry of Forests term applied to forest land areas where silviculture treatments such as planting and site preparation are overdue. Planting is considered backlog if more than 5 years have elapsed since a site was cleared (by harvesting or fire) in the interior and more than 3 years on the coast of B.C.

backpack sprayer: Spray unit with plastic containers on a backpack frame. Used by individual operator to apply chemicals, such as herbicides.

bareroot seedling: Stock whose roots are exposed at the time of planting (as opposed to container or plug seedlings). Seedlings are grown in nursery seedbeds and lifted from the soil in which they are grown to be planted in the field.



basic silviculture: The silviculture treatments that are carried out to ensure regeneration to the free-growing stage.

bearing: A direction on the ground or on a map defined by the angle measured from some reference direction: this may be true (geographic) north, magnetic north, or grid north.

biogeoclimatic classification: Ecosystem classification on the basis of vegetation, soils, topography, and climate.

biological diversity (biodiversity): Natural variation and variability of life in all its forms and at all its levels of organization. It is not just the variety of all living things, but also the genetic differences within species and the range of ecosystems in our landscapes.

biological herbicide: A naturally occurring substance or organism which kills or controls undesirable vegetation. Preferred over synthetic chemicals because of reduced toxic effect on the environment.

biological maturity: In stand management, the age at which trees or stands have peaked in growth rate and are determined to be merchantable. See *rotation age*.

bole: Trunk of a tree.

breast height: The standard height, 1.3 m above ground level, at which the diameter of a standing tree is measured.

broadcast burning: A controlled burn, where the fire is intentionally ignited and allowed to proceed over a designated area within well-defined boundaries, for the reduction of fuel hazard after logging or for site preparation before planting. Also called slash burning.

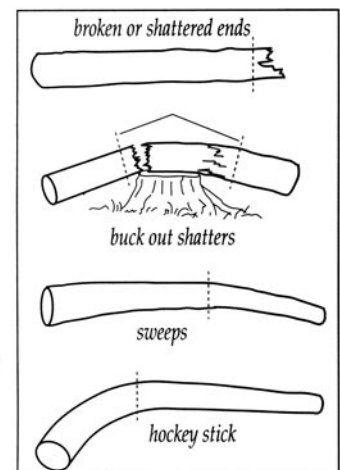
browse: Shrubs, trees and herbs that provide food for wildlife.

brushing: A silviculture treatment to remove brush (shrubs, herbs) and weed species which compete with seedlings for sunlight, water, and soil nutrients. See *conifer release*.

brush rake: A blade with teeth at the bottom, attached to a cat or skidder, used in mechanical site preparation. It penetrates and mixes soil and tears roots.

bucking: Cutting a felled tree into specified log lengths.

buffer strip: A strip of land (often including undisturbed vegetation) where disturbance is not allowed or is closely monitored to preserve or enhance aesthetic and other qualities along or adjacent to roads, trails, watercourses and recreation sites.



cambium: A single layer of cells between the woody part of the tree and the bark. Division of these cells results in diameter growth of the tree through formation of wood cells (xylem) and inner bark (phloem).

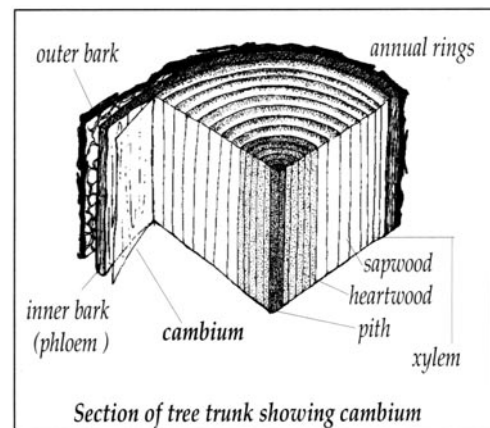
canopy: The forest cover of branches and foliage formed by tree crowns.

carbon budget: A balance sheet of carbon in an area or a system. Normally a carbon budget will include rates of various inputs and outputs of carbon, as well as information on the relative abundance of various forms of carbon.

chain: A measuring tape, often nylon, 50 m or 75 m in length, used to measure distances. This term is derived from an old unit of measurement: (80 Ch = 1 mile).

chlorosis: Blanched or yellowish coloring in plants caused by nutrient or light deficiency.

choker: A noose of wire rope used for skidding or yarding logs. (see *highlead system*)



clearcutting: The harvesting of all trees from an area of forest land in a single cut.

climax forest: A forest community that represents the final stage of natural forest succession for its environment.

clinometer: A simple instrument for measuring vertical angles or slopes. In forestry, used to measure distance and tree heights.

clone: A plant which is genetically identical to the parent plant. Produced asexually, e.g., from cuttings or suckers.

close utilization: Maximum stump height of 30 cm; minimum top dib of 10 cm. See *utilization standards*.

closed canopy: The description given to a stand when the crowns of the main levels of trees forming the canopy are touching and intermingled so that light cannot reach floor directly.

codominant: In stands with a closed canopy, those trees whose crowns form the general level of the canopy and receive full light from above, but comparatively little from the sides. In young stands, those trees with above average height growth.

commercial thinning: A silviculture treatment that ‘thins’ out an overstocked stand by removing trees that are large enough to be sold as products such as poles or fence posts. It is carried out to improve the health and growth rate of the remaining crop trees. See *juvenile spacing*.

compass: Instrument used to determine the direction of magnetic north. (see *bearing* and *azimuth*).

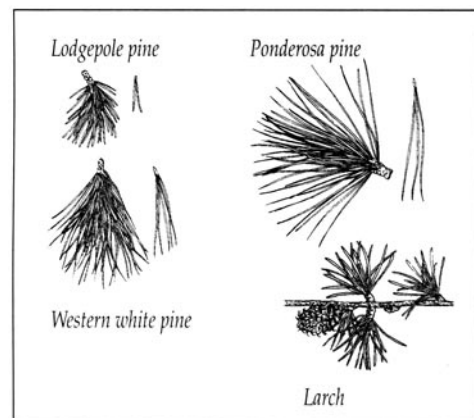
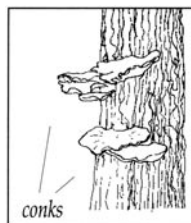


cone: A mass of seed-bearing scales or bracts.

conifer: Cone-bearing trees having needles or scale-like leaves, usually evergreen, and producing wood known commercially as ‘softwoods’.

conifer release: To ‘release’ established coniferous trees from a situation in which they have been suppressed by thinning out undesirable trees and shrubs which have overtopped them. Carried out to improve the growth of the coniferous trees released. See *brushing*.

conk: A hard, fruiting body containing spores of a wood-decaying fungus.



coniferous (softwood) needles

container seedling: Seedling grown in small container in a controlled environment. See *plug* and *bareroot seedling*.

contour map: A topographic map which portrays relief by means of contour lines.

control points: A system of points with established positions or elevations, or both, which are used as fixed references in positioning map features.

cord: 128 cubic feet of stacked roundwood (whole or split, with or without bark) containing wood and airspace, with all the pieces of similar length and lined up to approximately the same direction. Example: a pile of firewood 4'x4'x8'.

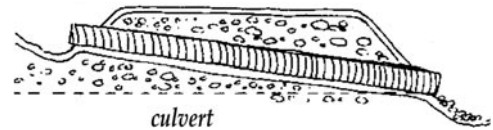
crop tree: A tree in a young stand selected to be retained until final harvest.

crown: The live branches and foliage of a tree.

crown land: Land that is owned by the Crown. Referred to as federal Crown land when it is owned by Canada, and as provincial Crown Land when owned by the province.

cruising vest: A vest with numerous pockets for maps, notebooks and instruments. Worn by "cruisers" conducting surveys of forest stands.

culvert: A drain or covered channel that crosses under a road to lead water from the upper to the lower side.



cut bank: The excavated bank from a ditch line to the top of the undisturbed slope of a road.

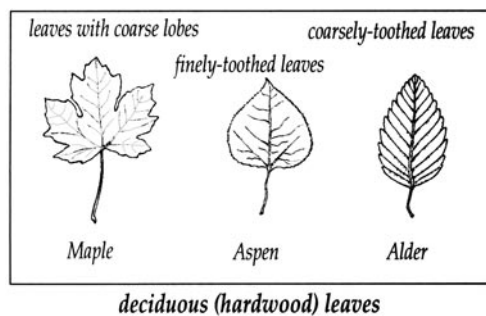
cut block: A specific area with defined boundaries authorized for harvest.

cut period: The interval between major harvesting operations in the same stand.

cutting permit: The document that contains the authority to harvest trees on Provincial Crown Land.

dbh (diameter breast height): The stem diameter of a tree measured at breast height, 1.3 metres above the ground.

deciduous: Term applied to trees, commonly broadleaf, that usually shed their leaves annually. Also known commercially as 'hardwoods'.



declination (magnetic): The angle between true (geographic) north and magnetic north (direction of the compass needle). Declination varies from place to place and can be 'set' on a compass for a particular location.

defoliator: An agent that damages trees by destroying leaves or needles.

depletion: An income tax allowance reflecting the purchase price paid for merchantable timber, usually on fee simple land. Also, a term used to refer to the process of harvesting your growing stock.

depreciation: Reduction in the value of assets, such as equipment and buildings, resulting from their use. Annual income tax allowance for asset depreciation varies with the nature of the asset.

development objectives: The short-term (often 5-year) planning objectives for a specific management area.

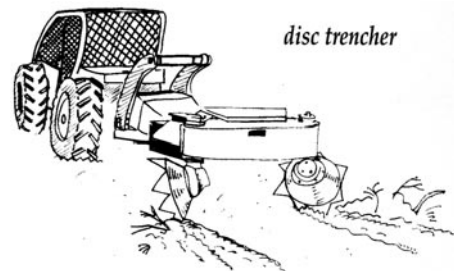
development plan: A specific plan outlining harvesting, road construction, protection, and silviculture activities over the short-term (often 5 years) in accordance with the approved forest management plan.

diameter tape: A graduated tape based on the relationship of circumference to diameter which provides direct measure of tree diameter when stretched around the outside of the tree, usually at breast height. See *dbh*.

dib (diameter inside bark): The diameter of a tree or log excluding bark thickness.

dibble: A tool used to make holes in the ground for planting tree seedlings.

disc trencher: A machine designed for mechanical site preparation. It provides continuous rows of planting spots rather than intermittent patches as provided by patch scarifiers. Consists of scarifying steel discs equipped with teeth.



dominant: Trees with crowns extending above the general level of the canopy and receiving full light from above and partly from the side; taller than the average trees in the stand with crowns well developed.

dot grid: A transparent sheet of film (overlay) with systematically arranged dots, each dot representing a number of area units. Used to determine areas on maps, aerial photos, plans, etc.

drag scarification: A method of site preparation that disturbs the forest floor and prepares logged areas for regeneration. Often carried out by dragging chains or drums behind a skidder or tractor.

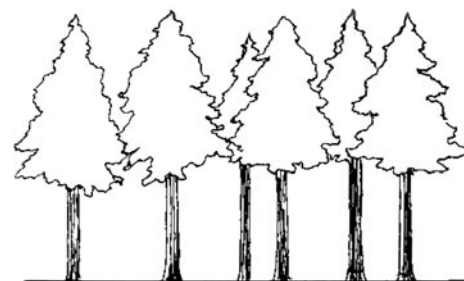


duff: The organic litter layer of the forest floor.

ecosystem: The sum of plants, animals, environmental influences, and their interactions within a particular habitat.

Environmentally Sensitive Areas (ESA): ESAs for forestry include potentially fragile or unstable soils that may deteriorate unacceptably after forest harvesting, and areas of high value to non-timber resources such as fisheries, wildlife, water, and recreation.

even-aged: A forest stand or forest type in which relatively small (10-20 year) age differences exist between individual trees. Even-aged stands are often the result of fire, or a harvesting method such as clearcutting or the shelterwood method.



even-aged stand

extension services: Assistance provided to woodland operators. May include help with the preparation of forest management plans, cutting permits, marking trees for selective cutting, and guidance in carrying out slash disposal, site preparation, planting, etc.

faller: An experienced logger who cuts down (falls) standing trees with a chainsaw.

favourable slope (or grade): A downhill (i.e. gravity-assisted) include for hauling or skidding of logs or other loads.

feller-buncher: A harvesting machine that cuts a tree with shears or a saw and then piles it.

felling: The act of cutting down a standing tree.

fertilization: The addition of fertilizer to promote tree growth on sites deficient in one or more soil nutrients. Also used to improve the vigour of crop trees following juvenile spacing or commercial thinning.

fill bank: The fill material used to shape a road from the outer edge of the travelled portion to its intersection with the existing ground profile.

fill-in planting: Planting required to supplement poorly stocked natural regeneration or to replace seedlings that have died on previously planted sites.

financial maturity: The age at which a stand of timber offers the maximum return on investment in terms of volume and grade yield.

firebreak: Areas or strips of less flammable fuels that are either natural (standing timber or landslides) or are made in advance (cat trails or roads) as precautionary measures, separating areas of greater fire hazard.

fire guard: A man-made barrier (often an area cleared of fuels) constructed at the time of fire to control it and provide a point from which to carry out fire suppression.

fisheries sensitive zones: Aquatic environments important for the life history of fish including areas which may not be defined as streams. May include: side and flood channels, swamps, seasonally flooded depressions, lake spawning areas or estuaries.

fixed area plot sampling method: A controlled cruise method where small plots of a fixed size are used to sample a portion of a forest area to obtain information (such as tree volume) that can be used to describe the whole area.

flagging tape: Coloured plastic tape which comes in rolls and is used to mark (flag) boundaries or identify certain trees or objects.

forage: Grasses, small shrubs and herbs that can be used as feed for livestock or wildlife.

forest: A plant community predominantly of trees and other woody vegetation growing more or less closely together with an associated animal community.

forest cover map: A map showing relatively homogeneous forest stands or cover types produced from the interpretation of aerial photos and information collected in field surveys. Commonly includes information on species, age class, height class, site, and stocking level.

forest ecology: The relationships between forest organisms and their environment.

forest inventory: A survey of a forest area to collect information on timber and a variety of other resource values.

forest land (B.C. Assessment Authority): Land having as its highest and best use the growing and harvesting of trees.

forest management cycle: The phases that occur in the management of a forest including harvesting, site preparation, reforestation, and stand tending.

forest management plan: A general plan for the management of a forest area, usually for a full rotation cycle, including the objectives, prescribed management activities and standards to be employed to achieve specified goals. Commonly supported with more detailed development plans.

forest renewal: The renewal of a tree crop by either natural or artificial means.

forest type: A group of forested areas or stands of similar composition (species, age, height, and stocking) which differentiates it from other such groups.

forest type labels: The symbols which are used to code information about forest types on a forest cover map, e.g. site, disturbance, age and height class, species, stocking.

forest type lines: Lines on a map or aerial photo outlining forest types.

free-growing: Young trees that are as high or higher than competing brush vegetation with one metre of free-growing space surrounding their leaders.



fruiting body: The reproductive part of a fungus that contains or bears spores. Also known as a conk.

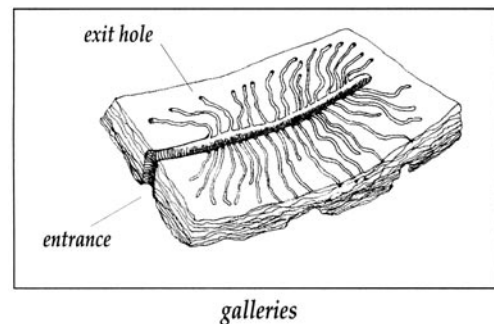
fuelbreak: See firebreak.

fuel management: The activities carried out to modify fuel accumulations (slash) to reduce the chance of ignition and rate of fire spread.

fuelwood: Trees used for the production of firewood logs or other wood fuel.

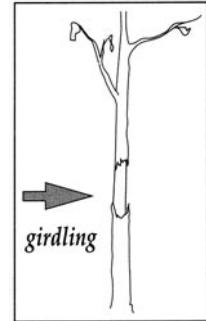
fungus: A plant that obtains its nourishment through the organic matter of other plants, causing decay.

galleries: Passages carved out under bark or in wood by insects feeding or laying eggs.



geographic information system (GIS): A computer-based mapping system which combines different types of resource information. Often used to make forest management decisions.

girdling: To kill a tree by severing or damaging the cambium layer and interrupting the flow of food between the leaves and the rest of the tree. A method of 'brushing' carried out using a hatchet or special tool to cut through the bark and cambium of the tree.



grading: Classifying timber, lumber or logs according to quality or end-use.

grapple yarder: A machine used in harvesting to bring logs into a landing. The grapple closes like teeth around the log and is controlled by the machine operator.

green belt: A strip of undisturbed soil and vegetation left along waterways or access routes to minimize the environmental impact from development. See *buffer strip*.

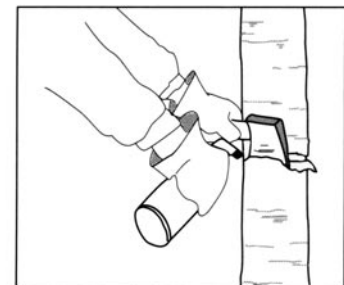
gross total volume: Volume of the main stem of the tree including stump and top. Volume of the stand including all trees.

growing stock: The sum of all trees in a forest or specified part of it.

habitat: The place where an organism lives and/or the conditions of that environment including the soil, vegetation, water, and food.

habitat management: Management of the forest to create environments which provide habitats (food, shelter) to meet the needs of particular species of wildlife, birds, etc.

hack and squirt: A method of conifer release and juvenile spacing where the bark of a tree is cut (hack) and herbicides are injected (squirt) to kill the tree.



hardwoods: Trees which are generally deciduous, broad leaved species such as oak, alder, chestnut or maple.

harvest cut: The felling of the mature crop of trees either as a single clearcut or a series of regeneration cuttings.

harvesting: The cutting and removal of trees from a forested area.

hauling: A general term for the transport of logs from one point to another, usually from a landing to the mill or shipping point.

heartwood: The inner core of a woody stem composed of nonliving cells and usually differentiated from the outer wood layer (sapwood) by its darker colour. See *cambium*.

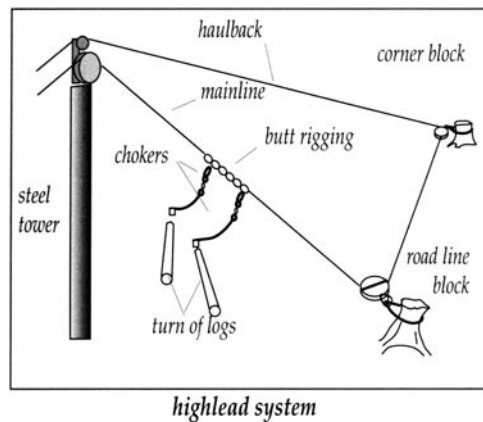
height class: Any interval into which the range of tree heights is divided for classification and use, commonly 3 m, 5 m, or 10 m classes.

height/diameter curve: A graphic representation of the relationship between individual tree heights and diameters used to determine tree volumes in localized areas.

herbicide: Chemical substances or living organisms (called bioherbicides) used to kill or control vegetation such as brush, weeds, and competing or undesirable trees.

high-grading: The removal of only the best trees from the stand, often resulting in a poor-quality residual stand.

highlead system: Logging system that uses cables rigged to a spar high above the ground so that one end of the logs can be lifted during yarding.



hinge wood: The holding wood between the undercut and the backcut that acts as a hinge to control the direction of the fall.

hip chain: A device used to measure distance by means of an anchored filament wrapped around a wheel that revolves as you walk (handy for measuring distances on your own).

humus: A general term for the more or less decomposed plant and animal residues in the upper soil layer.

hypometer: A simple instrument, often a stick or other straight edge, used to measure the heights of trees on the basis of similar angles.

immature: Trees or stands that have grown past the regeneration stage, but are not yet mature.

improvement cutting: The removal of trees of undesirable species, form or condition from the main canopy of the stand to improve the health, composition and value of the stand.

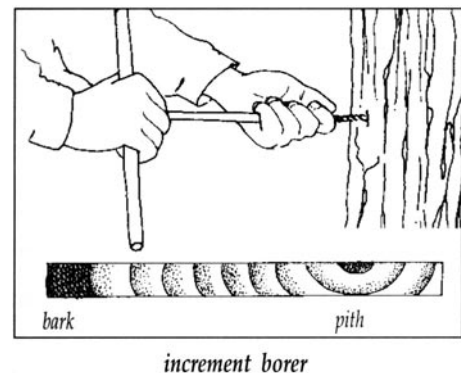
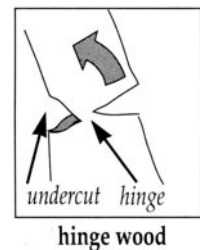
incremental silviculture: A ministry of Forests term that refers to the treatments carried out to maintain or increase the yield and value of forest stands. Includes treatments such as site rehabilitation, conifer release, spacing, pruning, and fertilization. Also known as intensive silviculture. See *basic silviculture*.

increment borer: A tool used to extract a core of wood from a living tree for the purpose of studying the annual growth rings of the tree.

increment core: That part of the cross section of a tree extracted by an increment borer. Used to determine tree age and growth pattern.

indicator species: Species of plants used to predict site quality and characteristics.

integrated resource management (IRM): The management of two or more resources in the same general area, commonly includes water, soil, timber, range, fish, wildlife, and recreation.



intensive silviculture: See *incremental silviculture*.

intertree distance: The distance between tree boles, usually used in the context of thinning. Recommended guidelines for intertree distances are established for different thinning programs depending on site variables, the species and age of trees, and management objectives.

juvenile spacing: A silvicultural treatment to reduce the number of trees in young stands, often carried out before the stems removed are large enough to be used or sold as a forest product. Prevents stagnation and improves growing conditions for the remaining crop trees so that at final harvest the end-product quality and value is increased. See *commercial thinning*.

kickback: The sudden and dangerous jump of the butt of a falling tree as it comes down. Also, the abrupt and dangerous backward movement of a chainsaw toward the operator, often caused by touching the moving chain at the tip of the bar to an object when starting to cut.

landing: The area where logs are collected for loading.

leader: The annual growth of the main vertical “branch” of a tree. An extension of the main stem.

leave trees: Trees selected to be left on an area following harvesting, thinning or juvenile spacing.

litter layer: The layer of organic debris, mainly bark, twigs, and leaves, on the forest floor.

log boom: Floating raw logs tied together in rafts to be towed by boat to their destination.

logging plan: A schedule of operations for a specific area that describes in words and on a map how and where harvesting will take place.

loss factors: Reductions made to gross volumes to allow for decay, waste, and breakage.

MAI (mean annual increment): The average annual increase in volume of individual trees or stands up to the specified point in time. The MAI changes with different growth phases in a tree’s life, being highest in the middle years and then slowly decreasing with age. The point at which the MAI peaks is commonly used to identify the biological maturity of the stand and its readiness for harvesting.

managed forest land: Forest land that is being managed under a forest management plan utilizing the science of forestry.

management area: Stands or forest types that require similar management practices and can be grouped for treatment as a management unit.

management plan: Detailed long-term plan for a forested area. Contains inventory and other resource data.

map folio: A series of maps bound together, often produced as overlays of information, e.g. soils, fish, water, forest, and wildlife.

mature: Trees or stands that are sufficiently developed to be harvestable.



merchantable timber: A tree or stand that has attained sufficient size, quality and/or volume to make it suitable for harvesting.

merchantable volume: The amount of sound wood in a single tree or stand that is suitable for marketing under given economic conditions.

meridian line: A north-south reference line often appearing on maps. Meridian lines are also etched into the bearing plate on a compass.

microclimate: Generally the climate of small areas, especially insofar as this differs significantly from the general climate of the region. Stands often create microclimates.

microsite: A small area which exhibits localized characteristics different from the surrounding area. For example, the microsites created by a rock outcrop with thin soil, or shaded and cooled areas created on a site by the presence of slash.

mixed stand: A stand composed of two or more tree species.

monoculture: Cultivation of a single tree species.

natural regeneration: The renewal of a tree crop by natural as opposed to human means, e.g. seed on-site from adjacent stands, or brought in by wind, birds, or animals.

net present value (NPV): A stand's present worth before harvesting once costs associated with its establishment and tending have been subtracted.

net volume: Volume of the main stem excluding stump and top as well as the defective and decayed wood of trees or stands.

non-forest land: Land not primarily intended for growing or supporting a forest.

non-timber resources: Resources other than timber, such as recreation, aesthetics, wildlife, fish, forage, range, water, and soils.

NSR (not satisfactorily restocked): Productive forest land that has been denuded and has failed partially or completely to regenerate naturally or to be artificially regenerated.

old growth: Natural stands of old and young trees and their associated plants, animals and ecological relationships, which have remained essentially undisturbed by human activities. The age and structure of old growth forests varies by forest type and from one biogeoclimatic zone to another.

operational cruise: An estimate, to a specified degree of accuracy, of the volume of timber on an area to be harvested.

overmature: In even-aged management, those trees or stands past the mature stage.

overstorey: That portion of the trees in a forest of more than one storey forming the upper or uppermost canopy layer.

overtopping: Vegetation higher than the favoured species, as in brush or deciduous species shading and suppressing more desirable coniferous trees.

particle board: Sheets of building material made from wood particles bonded together with synthetic resin under heat and pressure.

per hectare factor: A number used to convert sample plot information to per hectare information (as in converting the plot volume to be a per hectare volume).

periodic harvests (periodic cut): The removal of several years' accumulated AAC in one year or other period.

pest: An organism capable of causing material damage. Forest pests include insects and diseases.



phloem: A layer of tree tissue just inside the bark that conducts food from the leaves to the stem and roots. See *cambium*.

pioneer plants: A succession term for plants capable of invading bare sites, such as a newly exposed soil surface, and persisting there, i.e., 'colonizing' until supplanted by invader or other succession species.

pitch tubes: A tubular mass of resin that forms on the surface of bark at bark-beetle entrance holes.

pith: The central core of a stem and of some roots, representing the first year of growth and consisting mainly of soft tissue. See *increment borer*.

plot: A carefully measured area laid out for experimentation or measurement.

plug: A seedling grown in a small container under carefully controlled (nursery) conditions. When seedlings are removed from containers for planting, the nursery soil remains bound up in their roots. See *bareroot seedling*.

pre-harvest silviculture assessment (or survey): The survey carried out on a stand prior to logging to collect specific information on the silvicultural conditions such as planting survival, free-growing status, stocking, etc. See *silvicultural survey*.

pre-harvest silviculture prescription: A document that applies site-specific field data and develops forest management prescriptions for areas in advance of logging.

prescribed burning: The knowledgeable application of fire to a specified land area to accomplish designated land management objectives.

prime mover: Heavy equipment used to tow other machines such as disc trenchers for site preparation.

provincial forest inventory: A description of the quantity and quality of forest trees, non-wood values, and many of the characteristics of the land base compiled from statistical data for the forest lands of the Province.

pruning: The manual removal of the lower branches of crop trees to a predetermined height to produce clear, knot-free wood.

railway grade: The roadbed upon which ties and rails were laid.

reforestation: The natural or artificial restocking (i.e. planting, seeding) of an area with forest trees. Also called forest regeneration.

regeneration delay: The maximum time allowed for initial restocking of a denuded area (as a result of harvesting, fire, etc.) with the minimum number of acceptable trees. The time is measured in growing seasons from the beginning of denudation.

regeneration performance assessment (RPA): A sampling survey carried out to collect field data on the height growth, competition, and stocking of young stands (5-10 years).

regeneration survey: Carried out to determine the initial restocking of a site. It is used to describe the number of trees on a site that have reached acceptable standards.

reserve: An area of forest land that, by law or policy, is not available for harvesting. Areas of land and water set aside for ecosystem protection, outdoor and tourism values, preservation of rare species, gene pool, wildlife protection etc.

right-of-way: The strip of land over which a power line, railway line, road, etc., extends.

rotation age: The age at which a stand is considered mature and ready for harvesting.

roundwood: Sections of tree stems, with or without bark. Includes logs, bolts, posts, and pilings.

RPF (registered professional forester): A person registered under the Foresters Act who performs or directs works, services or undertakings requiring specialized knowledge, training and experience in forestry.

sanitation cutting: The removal of damaged or diseased stems to prevent the spread of insects or disease.

sapwood: The light-coloured wood that appears on the outer portion of a cross-section of a tree. See *cambium*.

scaling: The measuring of lengths and diameters of logs and calculating deductions for defect to determine volume.

scalping: Site preparation method which exposes favourable mineral soil for tree seedlings to be planted in.

scarification: A method of seedbed preparation which consists of exposing patches of mineral soil through mechanical action.

screefing: Removing weeds and small plants together with most of their roots from the area immediately surrounding a planting hole.

second growth: A second forest that develops after harvest of the original mature old-growth forest.

seedbed: In natural regeneration, the soil or forest floor on which seed falls; in nursery practice, a prepared area over which seed is sown.

seed orchard: An area of specially planted trees that have been selected for their superior characteristics (i.e. growth, volume, branching, pest resistance, etc.) to breed genetically improved seed.

selection cutting: An uneven-aged silviculture system in which trees are harvested individually or in small groups continuously at relatively short intervals.

seral stages: The stages of ecological succession of a plant community, e.g., from pioneer stage to climax stage.

shade-tolerance: The capacity of a tree or plant species to develop and grow in the shade of, and in competition with, other trees or plants.

shakes: Thin rectangular pieces of wood split from a bolt and used for roofing or siding.

shearing: In Christmas tree culture, to prune the branches to make dense foliage and give the tree a conical shape.

shelterwood: Any harvest cutting of a more or less regular and mature crop designed to establish a new crop under the protection of the old.

shingles: Thin rectangular pieces of wood, sawn along the grain used like tiles for roofing and siding.

silviculture: The art and science of growing a tending a forest.

silviculture survey: A sampling procedure to determine silvicultural conditions such as planting survival, free-growing status, stocking, etc., leading to management decisions. See *pre-harvest silviculture assessment*.

silviculture system: A process following accepted silvicultural conditions whereby forests are tended, harvested, and replaced.

site class: The measure of the relative productive capacity of a site for a particular crop or stand, generally based on tree height at a given age.

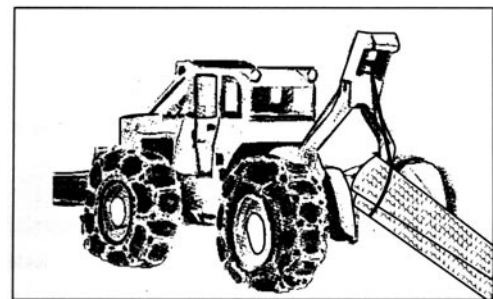
site preparation: Disturbance of an area's topsoil and ground vegetation to create conditions suitable for regeneration.

site rehabilitation: The conversion of the existing unsatisfactory cover on highly productive forest sites to a cover of commercially valuable species.

skidder: A wheeled or tracked vehicle used for sliding/dragging logs from the stump to a landing.

skidding: The process of sliding/dragging logs from the stump to a landing, usually applied to ground-based operations.

skid trail: A rough-formed, temporary forest trail suitable for use by horses or equipment such as bulldozers or skidders in bringing trees or logs from the actual place of felling to a landing.



skidder

skyline: A type of cable logging in which a skyline is stationary and a carriage moves along it carrying logs above the ground from the felling site to the landing.

slash: The residue left on the ground after felling, including unused logs, uprooted stumps, broken tops, etc.

slope correction tables: Tables with conversions from slope distance to horizontal distance.

slope stability: Susceptibility of a slope to erosion and slides.

small-scale forestry: In general, non-industrial forestry operations. In B.C., small-scale forestry operations are carried out by woodlot licencees, Indian bands, municipalities and private landowners.

smoke management: Management of prescribed burns to limit adverse effects of the smoke produced.

snag: Standing dead tree often used by birds for nesting, or wildlife for refuge. Can be a hazard to forest workers as it may fall unexpectedly.

softwoods: Cone-bearing trees with needle or scale-like leaves such as Douglas-fir, cedar and Ponderosa pine.

soil: The upper layer of earth that supports growth of plants and animals. Forest soil is made up of three main layers: duff, upper mineral layer, and lower mineral layers.

soil compaction: The compression of soil as a result of heavy equipment traffic.

spacing: The act of removing trees from a stand to decrease the stand density, distribute the crop trees more evenly over the growing site, and create more growing room. See *intertree distance*, *juvenile spacing*, and *thinning*.

special forest products: As defined under the Forest Act to include: poles; posts; pilings; shakes; shingle bolts; Christmas trees; building logs; mining timbers; props and caps; cribbing; firewood and fuel logs; hop poles; orchard props; car stakes; round stakes; sticks and pickets; split stakes, pickets, palings; shake bolts, blocks and blanks; shingle blocks.

springwood: The less dense, larger wood cells of an annual growth ring. Also called earlywood because it is formed early in the growing season.

spur road: A branch of a main or secondary road.

stand: A community of trees sufficiently uniform in species, age, arrangement or condition to be distinguishable as a group from the forest or other growth on the area.

stand density: A relative measure of the amount of stocking on a forest area. Often described in terms of stems per hectare.

stand improvement: Any silvicultural treatment that increases the growth, quality or value of trees in a stand.

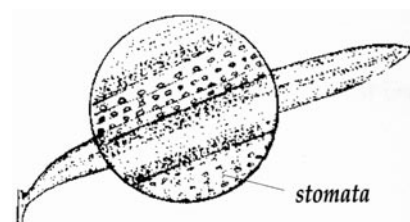
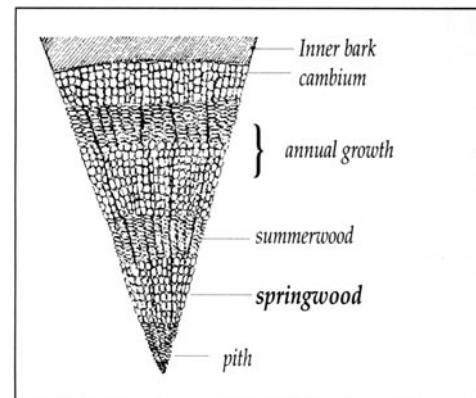
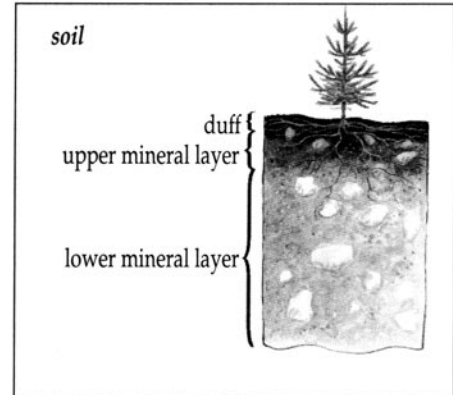
stand tending: A variety of forest management activities carried out at different stages in the life of a stand. Treatments may include: juvenile spacing; brushing; commercial thinning; fertilization; conifer release; site rehabilitation; mistletoe control; seed tree control; and pruning.

statistical sampling: The selection of sample units from a population and the measurement and/or recording of information on these units to obtain estimates of population characteristics.

stocking class: A numeric code representing a range of stems per hectare, sometimes estimated by crown closure on aerial photographs, e.g. stocking class 1 is mature with 76 + stems/ha of ≥ 27.5 cm dbh; class 2 is mature with < 76 stems/ha; class 0 is immature.

stomata: Pores generally on the underside of plant leaves, that control the rate of water and gas exchange in a plant.

strata: Groups of forest types with the same or similar species composition, age, and height class. (plural of stratum).



stratum: A subdivision of a forest area to be inventoried based on a group of trees with the same or similar species composition, age, and height class.

stream gradient: The general slope, or rate of vertical drop per unit of length of a flowing stream.

stumpage: The price that must be paid to the provincial government for timber harvested from Crown land.

stumpage appraisal: The process by which the stumpage to be charged for harvesting on any given area is estimated.

subgrade: The road base before the running surface is applied.

succession: The replacement of one plant community by another in progressive development toward climax vegetation.

summerwood: The denser, later-formed wood of an annual growth ring. Also known as 'latewood' referring to the time in the growing season that these cells are produced. See *springwood*.

suppressed: Trees with crowns entirely below the general level of the crown cover receiving little or no direct light from above or from the sides.

sustainable development: Preservation and protection of diverse ecosystems—the soil, plants, animals, insects and fungi while maintaining the forest's productivity.

survival assessment: A survey that estimates survival which is the percentage of trees living after a period of growth (often 2-5 years) following planting.

sustained yield: A method of forest management that calls for an approximate balance between net growth and amount harvested.

tenure: The holding, particularly as to manner or term (i.e. period of time), of a property. Land tenure may be broadly categorized into private lands, federal lands, and provincial Crown lands. The Forest Act defines a number of forestry tenures by which the cutting of timber and other user rights to provincial Crown land are assigned.

TFL (tree farm licence): A form of tenure agreement which allows the long-term practice of sound forest management and harvesting on Crown land or on a combination of Crown and private land by private interests under the supervision of the Forest Service.

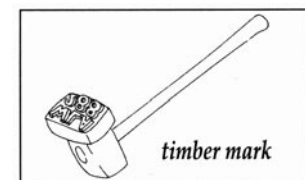
thinning: See *commercial thinning*.

timber cruising: The collection of field data on forests commonly by the measurement and recording of information in sample plots. Includes the measurement and estimation of volumes of standing trees.

timber mark: A hammer indentation made on cut timber for identification purposes.

tree-shear: A mechanical device used in felling that cuts or shears the standing tree off at the stump.

trim allowance: The extra length (usually 20 cm) of a bucked log to allow for trimming waste in the sawmill.



turnout: A space adjacent to a road in which vehicles may park or pull into to allow others to pass.

understorey: That portion of the trees or other vegetation in a forest stand below the main canopy level.

uneven-aged: stands with a wide range of ages and sizes.

unit sales: Sale of timber based on an agreed 'price per unit of material for timber volume' with payment based on scaled volume.

unmanaged forest land: Forest land that is not subject to management under a forest management plan.

utilization standards: The utilization limits (stump height and top diameter inside bark) which define the trees considered commercially saleable by the Ministry of Forests, and therefore the dimensions of all trees that must be cut and removed from Crown land harvesting operations.

variable area plot sampling method: A method of timber cruising commonly used for industrial timber cruising in which sampling area (plot size) varies with tree diameter.

veneer: A thin sheet of wood material either peeled or sliced from a length of log.

volume table: A table showing the estimated average tree or stand volume based on given tree measurements, usually diameter and height.

V-plow: A forest plow with a V-shaped blade used to prepare strips for hand planting by removing surface debris and competing vegetation.

waferboard: A type of particle board composed of wafers (mostly poplar) of uniform length and thickness.

water bar: A shallow trench cut into the surface of road or created by an embankment (e.g. log and soil) to collect and channel water off the surface to avoid erosion.

watershed: An area of land that collects and discharges water into a single main stream through a series of smaller tributaries.

weir: An enclosure set in a waterway for counting fish, or measuring water flow.

whorl: An arrangement of leaves or branches in a circle around a stem or tree trunk.

wildlife tree: A tall tree or snag heavily used by wildlife (such as cavity nesters).

wildling: A seedling naturally reproduced outside of a nursery, used in forest planting.

windrowing: The concentration of slash, branchwood, and debris into rows to clear the ground for regeneration. Windrows are often burned.

windthrown: Uprooted by the wind.

witches' broom: An abnormal tufted growth of small branches on a tree or shrub caused by fungi or viruses.

wolf tree: A vigorous tree that has merchantable value but occupies more space than its value warrants. Usually broad crowned, dominant, and very limby. Often a remnant from a previous stand.

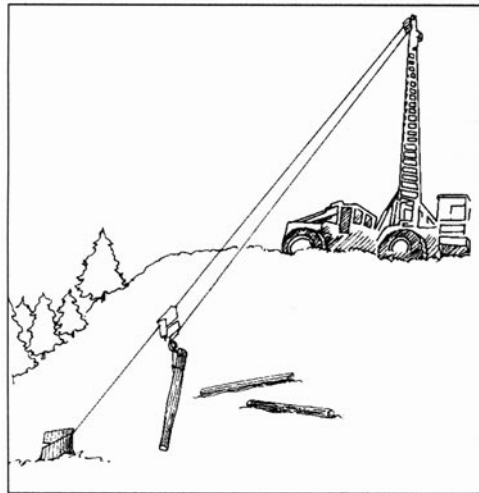
wood chips: Small pieces of wood used to make pulp.

wood pulp: A fibrous material produced by reducing wood to its component parts. Used for paper and paper board sheets.

woodlot licence: A legal agreement between a licensee and the British Columbia Forest Service that allows the licensee to manage crown (public) land and adjacent private land as a single management unit.

xylem: The principal strengthening and water-conducting tissue of stems, leaves, and roots. See *cambium*.

yarding: Moving trees or logs from felling site to roadside with cable, winch, or helicopter.



yarding system