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## L. GLOSSARY

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### **AAC**

This is the acronym for “annual allowable cut”. It is the volume of wood (m<sup>3</sup>) that can be harvested in one year from any area of forest under a sustained yield management regime. It is a calculation based on the potential fertility of the site, the state and potential of the stands currently growing in the forest, and assumptions about how existing or anticipated future stands will continue to grow, the risks of loss, and constraints on operability.

### **adaptive management**

A learning approach to management that incorporates the experience gained from the results of previous actions into decisions. It is a continuous process requiring constant monitoring and analysis of the results of past actions that are used to update current plans and strategies.

### **alternate harvesting method**

Systems other than clearcutting which include partial cutting techniques such as clearcuts with reserves, seedtree, shelterwood, and group selection. These methods consist of cutting only some of the trees from an area of forest at one time. Also refer to regeneration method.

### **ANHIC**

This is the acronym for “Alberta Natural Heritage Information Centre”. Provincial body responsible for the classification and tracking of rare plants.

### **annual allowable cut**

Means the total volume of timber that may be harvested in one year or the total amount of forested land on which the timber may be harvested in one year.

### **anthropogenic**

Made or induced by humans.

### **AOP**

This is the acronym for “Annual Operating Plan”. It is the Company’s operational plan detailing harvest and silviculture activities for a 2 or 3 year period with more general information for years 4 and 5. It is submitted and updated on an annual basis and must be approved by the Alberta Sustainable Resource Development, Land and Forest Service prior to any activities taking place.

### **archaeological resource**

Means a work of man that is primarily of value for its prehistoric, historic, cultural or scientific significance, and is or was buried or partially buried in land in Alberta or



submerged beneath the surface of any watercourse or permanent body of water in Alberta, and includes those works of man or classes of works of man designated by the regulations as archaeological resources.

**autecology**

The ecological characteristics of a species in relation to its surrounding environment.

**AWMSI**

This is the acronym for “area-weighted mean shape index”. AWMSI measures the perimeter-to-area ratio for a patch type or landscape using comparisons of patches to a standard shape.

**ARIS**

This is an acronym for “Alberta Reforestation Information System”. This is a centralized database, currently under development by the Alberta Government, to which all reforestation activities conducted within the province of Alberta are reported.

**AVI**

This is an acronym for “Alberta Vegetation Inventory”. This is a Alberta Government inventory standard that gives guidance to how to classify vegetation types occurring on forestlands.

**backlog NSR**

Areas that remain “not satisfactorily restocked” (NSR) beyond a specific regeneration period.

**basal bark treatment**

A vegetation management technique where herbicides are manually applied directly to individual tree stems.

**basic forestry practices**

Regular scarification and planting techniques, as well as some stand tending practices such as thinning and use of herbicides, are considered. Basic forestry practices maintain growth on the site (knock back the competition for a time to allow the crop trees to grow) and meet legislative requirements.

**BDU**

This is an acronym for “bone dry unit”. Equivalent to 2,400 pounds of oven dry woodchips of standard quality dried to a constant mass at 103 °C (±2).

**beehive burner**

A cone-shaped incinerator used for wood residue disposal at some sawmills.



**berm**

A man-made embankment of soil used to divert water from rainfall or runoff. See also snow berm.

**biodiversity**

Diversity of plants, animals and other living organisms in all their forms and levels of organization, including genetics, species and ecosystems, and the evolutionary and functional processes that link them.

**blowdown**

Timber blown over by strong winds. Also called windthrow or windfall.

**board foot (fbm)**

Means the nominal volume of wood that would be contained in a solid piece of wood 1 inch thick measuring 12 inches long and 12 inches wide before surfacing and drying the wood.

**brushsaw**

Mechanical vegetation management equipment; a circular saw attached to a portable engine. Used for weeding and thinning operations.

**bucking**

Cutting a felled tree into specified log lengths.

**buffer**

Buffers are leave strips of vegetation, often bordering watercourses or surrounding areas requiring protection.

**Canadian fisheries waters**

Means all waters in the fishing zones of Canada, all waters in the territorial sea of Canada and all internal waters of Canada.

**carbon dioxide (CO<sub>2</sub>)**

Carbon dioxide is a molecule formed from one atom of carbon and two of oxygen. It is a greenhouse gas of major concern in the study of global warming.

**carrying capacity**

The average number of livestock and/or wildlife that can be sustained on a management unit, compatible with management objectives for the unit. It is a function of site characteristics, management goals, and management intensity.



**catastrophic events**

Any event that originates from a sudden and usually severe disturbance, usually of calamitous proportions (high intensity, but low frequency) (e.g., windstorms, fires, floods, etc.) (Dunster and Dunster 1996).

**CBMS**

This is an acronym for “Cut Block Maintenance System”, a GENUS® based system used by Canfor to track cutblock data and information.

**chronosequence**

A series of measurements over time of a given variable.

**clearcut**

A harvest method in which the merchantable trees in a defined area are harvested in a single cut; an area where this harvest method has been used.

**clearcutting**

A silvicultural system that consists of harvesting all the trees from an area of forest in a single cut with the objective of establishing a new, even-aged forest.

**coarse woody debris (CWD)**

Sound or rotting logs, stumps, or large branches that have fallen or been cut and left in the woods. It also includes trees and branches that are dead but remain standing or leaning. Is often abbreviated as CWD.

**cogeneration**

The simultaneous production of electricity and process steam.

**collective agreement**

Means an agreement in writing between an employer or an employer’s organization and a bargaining agent containing terms or conditions of employment, and may include one or more documents containing one or more agreements.

**commercial timber permit (CTP)**

Means a timber disposition issued pursuant to paragraph 22 of the Act, and paragraphs 37 to 41 of these regulations, authorizing a person to cut crown timber. Maximum volumes issued are 750 m<sup>3</sup> and only to bona fide loggers and mill owners. Is often abbreviated as CTP.

**compaction, soil**

The process of decreasing soil volume such that soil density increases.



**community**

A group of people living in the same locality and under the same government; a group of people having similar or common interests. There are also ecological communities which consist of a group of plants and animals living and interacting with one another in a specific region under relatively similar environmental conditions.

**conifer**

A tree belonging to the order Coniferae, usually evergreen with cones, needle-shaped and producing wood known commercially as “softwood”.

**coniferous timber license (CTL)**

Means a timber disposition authorizing a quota holder to harvest predominantly coniferous timber and minor deciduous timber volumes.

**courduroy**

A temporary road or pathway built by placing logs crosswise to the road direction to act as a firm surface for hauling or skidding logs.

**criterion**

A distinguishable characteristic of sustainable forest management; a value that must be considered in setting objectives and in assessing performance.

**critical wildlife zone**

An Eastern Slopes Interdepartmental Planning Committee zone intended to protect ranges or terrestrial and aquatic habitats that are crucial to the maintenance of specific fish and wildlife populations.

**cross ditch**

A shallow ditch or trench constructed across a road at an angle to divert runoff from the road.

**cubic meter (m<sup>3</sup>)**

Means the standard measure of the volume of wood contained in a tree, log, forest product or log volume used to produce a forest product, to be determined by the means established by the Minister.

**cut control period**

Means a period of 5 consecutive forest management operating years.

**cutblock**

An area from which timber is harvested.



**Cut Block Maintenance System**

A GENUS<sup>®</sup> based system used by Canfor to track cutblock data and information. Abbreviated as CBMS.

**debris**

Organic or inorganic materials scattered or accumulated either naturally or by human influences.

**deciduous**

Term applied to trees (commonly broadleaf) that drop all their leaves sometime during the year.

**deciduous timber allocation (DTA)**

Means a quota (specified area or volume) of deciduous timber.

**deciduous timber license (DTL)**

Means a timber disposition authorizing a quota holder to harvest predominantly deciduous and minor coniferous timber areas.

**defined timber yield**

The amount of timber removed between May 1 and April 30 of the following year.

**DEM**

This is the acronym for “digital elevation model”, a computer-generated model of the landform in 3-D.

**den tree**

A hollow tree used as a home by a mammal.

**DFA**

This is the acronym for “Defined Forest Area”, a specified area of forest, land, and water delineated for the purpose of registration of a Sustainable Forest Management system.

**direct seeding**

The broadcast or spot sowing of the seeds of commercial tree species by manual, mechanical or aerial means.

**disturbance**

A discrete force that causes significant change in structure and/or composition through natural events such as fire, flood, wind or earthquake; mortality caused by insect or disease outbreaks or by human-caused events such as the harvest of the forest. Disturbances can occur on very small scales or very large scales.



**ditch block**

Barrier constructed across a drainage to retard water flow and to form a small, sediment catch basin. Ditch blocks are usually constructed from soil, timbers, rocks or gabions.

**diversion ditch**

Channel constructed across a slope to intercept surface runoff, changing the course of runoff into nearby vegetated areas.

**down woody debris**

Debris left after harvesting. Although sometimes visually unappealing, it plays an important role in nutrient cycling, and provides microsites for coniferous seedlings and habitat for wildlife. Larger pieces are also known as coarse woody debris (CWD); fine pieces as fine woody debris.

**ECA**

This is the acronym for “equivalent clearcut area”. ECA refers to an area that has been harvested, cleared or burned. The ECA index, expressed as a percentage, describes an area of regenerated growth in terms of its hydrological equivalence to a clearcut. As the area regenerates and growth develops, the hydrological impact is reduced. ECA is a primary factor considered in an evaluation of the potential effect of past and proposed forest harvesting on water yield. ECA is expressed as a percent of watershed area.

**ecological integrity**

The quality of a natural, unmanaged or managed ecosystem in which the natural ecological processes are sustained with genetic, species and ecosystem diversity assured for the future.

**ecosite**

This is an ecological unit where the vegetative cover develops under similar environmental influences (climate, moisture, regime, and nutrient regime). It is based on the combined interaction of biophysical factors.

**ecosite phase**

This is an ecological unit, a subdivision of an ecosite that is based on the dominant canopy structure and composition. The level of resolution of the data is at the stand level.

**ecosystem**

A complex system of living organisms (plants, animals, fungi, and micro-organisms), together with their abiotic environment (soil, water, and nutrients) that function together to circulate nutrients and create a flow of energy which creates biomass, a trophic structure in the living community, and a change in ecosystem form and function over time.



**edge**

The habitat along the boundary between 2 ecological communities such as open land and forested land. Because it is more diverse than communities on either side, edge can be important for some wildlife species.

**electrostatic precipitator**

An air pollution control device which uses electrically charged plates to remove particles from air emission sources.

**EMS**

This is the acronym for “environmental management system”. It is registered under ISO 14001 and comprises systems to manage the environment. Canfor’s system includes a web page application for management of all procedures and documents.

**endangered species**

- (i) A kind of endangered animal;
  - (ii) A kind of invertebrate prescribed as an endangered invertebrate;
  - (iii) A kind of plant, alga or fungus prescribed as an endangered plant, alga or fungus; or
  - (iv) A kind of fish prescribed as an endangered fish;
- or any combination of any of those kinds of organisms.

**endemic**

Native; indigenous; not introduced and often with a geographic range (Dunster and Dunster, 1996).

**enhanced forest management**

A management practice that includes the use of genetically improved seedlings, spacing of trees, etc. It is any practice that will yield more growth (m<sup>3</sup> per ha) than the site previously had, but **NOT** maximize it as in Intensive Forest Management.

**ephemeral stream or watercourse**

These are often vegetated draws, which flow only during and immediately after rainfall or snowmelt. There is little or no channel development. These are “0” order in the Strahler Classification System, and are often not shown on maps.

**epidemic**

A wide spread, and often rapidly built up, unusually high level of incidents of an insect, or disease, or other pest problem (Dunster and Dunster, 1996).

**even-aged**

Applied to a stand in which relatively small age differences exist between individual trees.



**excursions**

An excursion occurs when any vegetation outside the target zone is affected by herbicide.

**feathered edge**

A transitional area between an undisturbed forest and a clearcut where trees are selectively logged to reduce the impact of windthrow on the forest edge.

**fell**

The process of severing a tree from the stump so that it drops to the ground.

**feller buncher**

A machine used to mechanically sever a tree from the stump and accumulate individual logs into piles that can be skidded to a processing site (landing) for delimiting

**fine woody debris**

The smaller branches, twigs, leaves, and roots from trees that have fallen or been cut and left in the woods. See also coarse woody debris (CWD) and down woody debris.

**fingerjoint**

This is a value-added product that joins trim ends to produce dimensional lumber.

**Firesmart**

FireSmart landscapes is a philosophy that seeks to mitigate both the large, high intensity, high severity fires and the risk associated with prescribed burning. FireSmart landscapes are designed to recognize the interaction between ecological, social and economic considerations to both, maximize the positive impacts and minimize the potential negative impacts of wildfire.

<http://envweb.env.gov.ab.ca/env/forests/fpd/external/fstfsl.html>

**FIRS**

This is the acronym for “forest information resource system”. This is a computer system utilized by Canfor to record, monitor and report on log volumes and production.

**fly-ash**

The fine particles formed during incineration of wood residues that may be injected into the atmosphere.

**FMA**

This is the acronym for “forest management agreement”, a legal agreement signed between the Company and the Province of Alberta. It defines the rights, responsibilities, and constraints that apply to a specified area of forest for the purpose of removing timber for commercial purposes. The forested area to which the agreement applies is called the “FMA area.” The FMA area may comprise one or several FMUs.



**FMU**

This is the acronym for “forest management unit”, an area of forest managed as a unit for fiber production.

**Foothills Growth and Yield Association**

This Association is a forest industry association whose members are conducting research to forecast and monitor stand development and timber yields associated with enhanced forest management of lodgepole pine in the Lower and Upper Foothills and the Subalpine Natural subregions of Alberta.

**forage**

Grasses, small shrubs, and other plant material that can be used as feed by wildlife or livestock.

**forest**

A plant community in which the dominant vegetation is trees and other woody plants.

**forest management agreement area (FMA area)**

Refers to public lands in respect of which a forest management agreement has been entered into.

**Forest Road Maintenance System**

A GENUS<sup>®</sup> based system used by Canfor to track road data and information. Is often abbreviated as FRMS.

**forest stand**

An area of forest that is distinct from the surrounding forest by reason of some combination of topography, species composition, age or other feature; basic management unit in silviculture.

**free to grow**

A set of regeneration stocking standards as defined by the Forests Act and Timber Management Regulations.

**FRMS**

Acronym for “Forest Road Maintenance System”, a GENUS<sup>®</sup> based system used by Canfor to track road data and information.

**gabion**

Erosion control structures often made of galvanized steel mesh that are filled on the site with stones. Gabions stabilize creek banks and other areas that have high erosion potential due to flowing water.



**general recreation zone**

An Eastern Slopes Interdepartmental Planning Committee zone intended to retain a variety of natural environments within which a wide range of outdoor recreation opportunities may be provided.

**genotypes**

The genetic makeup of an organism, this being the sum total of all the genetic information in the organism.

**GENUS<sup>®</sup>**

A specialized forest management information system developed by GENUS Resource Management Technologies. This system is comprised of 4 modules: Silviculture, Cut Block Maintenance System (CBMS), Forest Road Maintenance System (FRMS), and Operational Planning.

**geographic information system (GIS)**

A computerized system that combines large sets of dissimilar forest management information to provide standard series of map-based reports.

**goal**

A broad, general statement that describes a desired state or condition related to one or more forest values.

**groundwater**

Means all water under the surface of the ground.

**H60**

H60 is the elevation above which 60% of the watershed lies (the watershed area above the H60 is considered as the source area for the major snowmelt peak flows).

**habitat**

The environment in which the plant or animal lives.

**habitat suitability index (HSI)**

A measure, estimated by modelling, of the value of habitat for wildlife species by relating a species' needs for food and cover to structural and spatial attributes of vegetation types within a defined area.

**hardwood**

A term used to describe broadleaf, usually deciduous, trees such as aspen, balsam poplar, white birch, etc. It does not necessarily refer to the hardness of the wood.



**highlight treatment (also as hilite)**

This treatment is an aerial broadcast herbicide treatment used in portions of cutblocks that have a total area greater than 1.5 ha. These portions must have full conifer stocking, and have in excess of 8,000 stems per ha of aspen.

**historic object**

Means any historic resource of a movable nature including any specimen, artifact, document or work of art.

**historic resource**

Means any work of nature or of man that is primarily of value for its palaeontological, archaeological, prehistoric, historic, cultural, natural, scientific or aesthetic interest including, but not limited to, a palaeontological, archaeological, prehistoric, historic or natural site, structure or object.

**historic site**

Means any site which includes or is comprised of an historical resource of an immovable nature or which cannot be disassociated from its context without destroying some or all of its value as an historical resource and includes a prehistoric, historic or natural site or structure.

**hogfuel**

Describes a specific stage of an incineration process whereby a source of incineration fuel is chopped into smaller pieces. It is often erroneously used as a synonym for wood residue.

**hydrological recovery**

Hydrological recovery takes into account the initial percentage of crown removal and the recovery through regrowth of vegetation since the initial disturbance. See also H60.

**indicator**

A measurable variable used to report progress toward the achievement of a goal.

**industrial development zone**

An Eastern Slopes Interdepartmental Planning Committee zone where all activities and infrastructure are associated with the development of an industrial base to accommodate the extraction, removal and processing of resources.

**intensive forest management**

A management practice would most likely be used only on private land. This practice maximizes the growth potential of the site.



**intermittent stream or watercourse**

Small stream channels which contain water during wet seasons, or during seasons of drought. Intermittent streams have distinct channel development (which is usually non-vegetated). There may be some bank development. These are ranked 0 to 1<sup>st</sup> order in the Strahler Classification System.

**intolerance (shade)**

The characteristics of certain tree species which do not permit them to survive in the shade of other trees.

**lacustrine**

Post-glacial deposits generally consisting of either stratified sand, silt or clay deposits on the lake-bed.

**land farm**

The process commonly used for disposal of specific wood by-products, usually coarse particle bottom ash, by incorporation of the by-product into the soil where microbial action breaks down the material into non-harmful substances.

**landing**

The area where logs are collected for loading.

**landscape**

A large area encompassing a wide diversity of adjacent landforms, land cover, habitats and ecosystems.

**large permanent stream or watercourse**

Major streams or rivers which are present all year, and exist on well defined flood plains. The valleys in which large permanent streams reside are usually greater than 400 m in width. Channels are non-vegetated, and greater than 5 m in width. The water quality of large permanent streams often reflects all upstream land use impacts and natural erosion processes. These streams have a Strahler classification of 4<sup>th</sup> order and above, and have resident fisheries.

**LFD**

This is the acronym for "Alberta Sustainable Resource Development, Land and Forest Division" - a department of the Alberta Government responsible for administering the Forests Act and associated regulations.

**LFN**

This is an acronym for 'leave for natural'. The renewal of a forest stand by natural rather than human means.



**line-of-sight**

The distance at which an object can be identified.

**LOC**

This is the acronym for “License of Occupation”. It refers to permanent road classes I to IV.

**LRF**

This is the acronym for “lumber recovery factor”. The amount of foot board measure of lumber recovered from a cubic meter of log, expressed as fbm per m<sup>3</sup>.

**log**

A piece of the wood stem of a tree. The trunk portion of a tree used for sawlogs, pulpwood or other round timber products.

**MAI**

This is the acronym for “mean annual increment”, the average annual increase in volume of individual trees or stands up to a 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.

**major slump**

A major slump is a type of mass wasting with down-slope movement of rock fragments and/or soil that affects > 2500 m<sup>2</sup> of ground surface area. See also mass wasting.

**mass wasting**

Mass wasting within the FMA area is classified as road grade cut failures, or minor and major slumps. The following classification applies for the purposes of measuring and recording the area affected by mass wasting:

- Road grade cut failures affect < or = 100 m<sup>2</sup>,
- Minor slumps affect < or = 2500 m<sup>2</sup>; and
- Major slumps affect >2500 m<sup>2</sup>.

See also road grade cut failure, minor slump, major slump.

**merchantable timber**

Timber meeting the utilization standards as defined in the *Timber Harvest Planning and Operational Ground Rules*. See also utilization standards.

**Mfbm**

One thousand foot board measure (1,000 fbm).



**MMfbm**

One million foot board measure (1,000,000 fbm).

**mineral soil**

Means non-organic soil (Forest and Prairie Protection Regulation, Part I Alberta Regulation 135/72).

**minor slump**

A minor slump is a type of mass wasting with down-slope movement of rock fragments and/or soil that affects  $\leq 2500 \text{ m}^2$  of ground surface area. See also mass wasting.

**MNND**

This is the acronym for “mean nearest neighbor distance”. MNND describes the spatial context of a habitat patch in relation to its neighbours by increasing with increasing distance between patches.

**monitoring**

The process of checking, observing and measuring outcomes for key variables or specific ecological phenomena against a predefined quantitative objective or standard.

**montane**

This zone is characterized by forests of coniferous trees, such as engelmann spruce and subalpine fir at higher elevations; and white spruce and lodgepole pine at lower elevations. Timberline forms the upper limit of this zone.

**moraine**

Landforms comprised of materials (tills) that have been transported by glacial ice.

**MPS**

This is the acronym for “mean patch size”. It is used as a measure of forest fragmentation.

**multiple use zone**

An Eastern Slopes Interdepartmental Planning Committee zone intended to provide for the management and development of the full range of available resources while meeting the objectives of watershed management and environmental protection in the long term.

**multiple use**

Land area is managed in order to support integrated use with timber and non-timber interests, including water, grazing, industrial development, recreation and wildlife issues.

**natural regeneration**

Forest renewal by natural as opposed to human means.



**net-down (procedure)**

The process of identifying the net land base, which is the number of hectares of forestland that actually contribute to the allowable annual cut. Areas and/or volumes are sequentially deleted or reduced from the gross land base for a number of considerations, including private ownership, non-forest or non-productive, environmentally sensitive, unmerchantable, and inaccessible.

**net value**

A “before tax” value or profit margin remaining after all operating and administrative expenses of a particular activity or operation have been deducted. Usually expressed as a percentage of sales revenue.

**NIVMA**

This is the acronym for “Northern Interior Vegetation Management Association”. NIVMA is a forest industry co-operative, which has been building a database for assessing plantation performance since 1989.

**NO<sub>x</sub>**

This is an acronym for “nitric oxides”. NO<sub>x</sub> is a generic term for nitrogen oxides. Nitrogen oxides are a major pollutant in the atmosphere, being a precursor to acid rain, photochemical smog and ozone accumulation.

**NES Strategy**

This is an acronym for “Northern East Slopes Sustainable Resource and Environmental Management Strategy” designed to develop a process and implement a common set of goals and values for the region that balance use between diverse interests. This set of goals and values will guide sustainable resource use, community development and regional infrastructure by way of regulatory and policy change, regional planning of industrial and social infrastructure and societal use and management of the land.

**Northern East Slopes Environmental Resources Committee (NESERC)**

A forum for integrating the management and administration of the environment and natural resources of the Northern East Slopes Region. The NESRC membership includes the Regional Director, Land and Forest Service, Alberta Environment; Regional Director, Natural Resources Service, Alberta Environment; Regional Director, Environmental Service, Alberta Environment; Regional Environmental Coordinator, Environmental Service, Alberta Environment; Manager, Mineral Access and Development, Alberta Resource Development; Head, Public Lands, NWB Region, Agriculture Food and Rural Development; Director, Resource Management and Development, Alberta Economic Development; Section Coordinator, Resources Division, Alberta Energy & Utilities Board; Manager, Ecosystems Secretariat, Jasper National Park.



**NRS**

This is the acronym for “Alberta Sustainable Resource Development, Natural Resources Service” – a department of the Alberta Government responsible for administering the fish and wildlife regulations.

**non-compliance**

Contravention of a legal requirement.

**non-conformance**

Contravention of the Company's Environmental Management System (EMS) requirements including policy or procedures.

**not satisfactorily restocked (NSR)**

Cutover areas that have been surveyed as per the Forests Act and Timber Management Regulations and have failed to meet the restocking standards as described therein. See also satisfactorily restocked (SR) and free to grow.

**nurse trees**

A tree crop of trees, shrubs or other plants, either naturally occurring or introduced, used to nurture or improve the form of a more important tree or crop during youth by protecting it from frost, insolation or wind.

**objective**

A clear, specific statement of expected quantifiable results to be achieved within a defined period of time related to one or more goals. An objective is commonly stated as a desired level of an indicator.

**old growth**

A forest of timber that is beyond its peak growing period. For the purposes of this document, the term old growth has been replaced with old seral as defined below.

**old seral stage**

Old seral stage is defined by the age of the stand at breast height for each yield group. See Table 1 below.

**operating unit**

A hypothetical area of land within the FMA area that forms 10 logical operating units for use in the *Resource and Timber Supply Analysis* for geographic harvest prioritization. Refer also to Appendix 3 Section 6.2.1.1.14. Operating units are divided into operating subunits



### operating subunit

A subdivision of an operational unit (see above) into a logical operating subunit for use in the *Resource and Timber Supply Analysis* for geographic harvest prioritization. Refer also to Appendix 3 Section 6.2.1.1.14.

### operational planning

A GENUS<sup>®</sup> based system that includes strategic analysis tools for developing plans. Includes functions such as cut volume reporting, inventory control and creation of logging and hauling plans.

### oven dry tonne

Volume (1,000kg) of woodchips after drying to a constant mass at 103 °C (±2).

### over mature

Over mature seral stage is defined by the age of the stand at breast height for each yield group. See Table 1 below.

### overstorey

The uppermost layer of foliage in a forest having more than one horizontal layer of foliage. This layer of the forest is instrumental in determining the amount of light able to reach the forest floor and the understorey.

**Table 1. Over mature and Old Seral Stage**

DFMP\_Tables.xls  
Table 2

Yield Group	Description	Over mature (4)	Old (5)	Species	Years to Breast Height (BH)
1	AW +(S) - AB	71-110	110+	AW	6
2	AW +(S)-CD	71-110	110+	AW	6
3	AW SW /PBSW /BW SW	81-120	120+	SW	15
4	BW /BW AW +(S)	71-110	110+	BW	6
5	FB+OTHERS	101-120	120+	FB	15
6	H+(S)/S	81-120	120+	SW	15
7	PB+(S)	81-110	110+	PB	6
8	PL/PLFB+(H)	81-120	120+	PL	10
9	PLAW /AW PL	71-120	120+	PL	10
10	PLSB+OTHERS	91-120	120+	PL	10
11	PLSW /SW PL +(H)	91-120	120+	PL	10
12	SBLT/LTSB (G,M,F)	131-150	150+	SB	20
13	SBLT/LTSB(U)	141-160	160+	SB	20
14	SBPL/SBSW /SBFB	101-130	130+	SB	20
15	SW /SW FB +(H)-AB	91-120	120+	SW	15
16	SW /SW FB +(H)-CD	91-120	120+	SW	15
17	SW AW /SW AW PL	91-120	120+	SW	15

Note: Ages are breast height age

**Species:** PL = Lodgepole pine; SW = White spruce; SB = Black spruce; FB = Balsam fir; LT = Tamarack larch; AW = White aspen (Aspen); BW = White birch; H = Generic for any deciduous species (aspen, birch); S = Generic for any coniferous species (pine, spruce, etc.) OTH = includes other unidentified species when FB or PLSB are identified as the main leading species  
**Species descriptors:** AB = refers to A and B stand densities (A being lower stems per ha than B); CD = refers to C and D stand densities (D being the highest stems per ha therefore the most dense type of stand); G,M,F = Timber productivity rating (site index) - "good, medium, fair"; U = timber productivity rating - uncommercial stand type

Source: ORM compiled data

### PAI

This is the acronym for "periodic annual increment", the growth increment added in the past few years.



**palaeontological resource**

Means a work of nature consisting of or containing evidence of extinct multicellular beings and includes those works of nature or classes of works of nature designated by the regulations as palaeontological resources.

**partial cut**

A cutting by which only a part of the stand is removed. It usually implies a series of such cuttings.

**patch**

A specific area wherein relatively homogeneous environmental conditions occur. Boundaries are defined by measurable changes in one or several environmental variables.

**permanent sample plot (PSP)**

Permanent plots used by forest researchers to provide reliable long-term growth and yield data. See also "PSP".

**permanent stream or watercourse**

A well-defined channel where water flows continuously throughout the year. These are ranked 4<sup>th</sup> or 5<sup>th</sup> on the Strahler Classification System.

**PHA**

This is the acronym for "pre-harvest assessment", a 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.

**PHEA**

This is an acronym for "pre-harvest ecological assessments". Canfor conducts pre-harvest ecological assessments to collect the site-specific ecological data required for making informed silviculture decisions.

**PHSP**

This is the acronym for "pre-harvest silviculture prescriptions", a document that applies site-specific field data and develops forest management prescriptions for areas in advance of logging.

**phytogram**

The phytogram is a series of electrochemical measurements of capacitance and potential that are made hourly, summarized daily, and cumulated over the measurement period. The phytogram techniques and analyses are scaled to address seasonal as opposed to diurnal trends by pooling measurements over 10 seedlings per stock type per microsite position.



**planting window**

Time periods to which seedlings are conditioned to be planted, resulting in most efficient seedling establishment.

**PM10-sized particles**

Particles measuring less than 10 microns.

**pre-harvest silviculture prescriptions (PHSP)**

Represent a planning system that collects site-specific field data and develops forest management prescriptions for cutblocks in advance of logging. See also PHSP.

**preservation**

To maintain the environment in a natural state and minimize human impact on the biological system.

**PSP**

This is the acronym for “permanent sample plots”. Permanent plots used by forest researchers to provide reliable, long-term growth and yield data. See also permanent sample plot.

**quota holder**

Means a holder of a coniferous timber quota or a deciduous timber quota.

**‘R’-road(s)**

Canfor designation for roads which are temporary roads that access harvested areas; Classes 4 or 5 (temporary roads). See also road classes (Table 2).

**ramet**

Offspring produced from vegetative reproduction.

**range of natural variability**

The spectrum of conditions possible in ecosystem composition, structure, and function that may occur naturally considering both temporal and spatial factors.

**reclamation**

Returning the land to a condition and productivity in conformity with the prior land use objective of maintaining a balanced ecological state, which does not contribute substantially to environmental deterioration and is consistent with esthetic values.

**reforestation**

The natural or artificial restocking of an area with forest trees.



### **regeneration**

The process by which the forest is replaced or renewed. This may be artificial regeneration by means of seeding or planting, or natural regeneration, from natural seeding or sprouting.

### **regeneration methods**

There are 4 basic methods currently used:

1. Clearcutting; Removal of the entire forest in one cut. This method perpetuates even-aged stands;
2. seed tree; Removal of the mature timber in one cut, except for a small number of seed trees. Called a “group cutting” when the seed trees are left in groups, a “reserve cutting” when specifically selected trees are left for growth, as well as to furnish seed;
3. selection; Removal of mature timber, usually the oldest or largest trees, either as single scattered trees or in small groups at relatively short intervals, (5 to 20 years), repeated indefinitely. This encourages a continuous establishment of natural reproduction, and an uneven-aged stand is maintained. Also called “thinning”;
4. shelterwood; Removal of the mature timber in a series of cuttings, which extend over a period of years. Usually equal to not more than  $\frac{1}{4}$  (often not more than  $\frac{1}{10}$ ) of the time required to grow the crop. The establishment of natural reproduction under the partial shelter of seed trees is encouraged, but sometimes these areas must be artificially regenerated; and
5. coppice; Forest regeneration by sprouting (vegetative reproduction) from stumps or roots.

### **regeneration survey**

Surveys that are carried out to determine the initial restocking of a site following harvest. They describe the number of trees on a site that have reached acceptable standards.

### **residual (trees or stand)**

Trees remaining uncut after any harvest operation.

### **riparian zone**

The areas adjacent to any water bodies, identified by vegetation, wildlife, and other qualities unique to these locations.

### **road class(es)**

Roads in the FMA area are constructed in accordance with *Resource Road Planning Guidelines* (AENR 1989), which identifies 5 classes of roads (Table 2).



**Table 2. Integrated Classification of Roads**DFMP\_Tables.xls  
Table 72

Road Class	Description
I	Permanent, year-round access to a working area for 20 years+.
II	Permanent year-round access. A branch road serving as a collector or as a main winter haul road. Duration of use: 10 years+.
III	Permanent access available during dry or frozen periods – provides access to cutblocks. Duration of use: 2 to 20 years.
IV	Temporary access during dry or frozen periods between and within cutblocks. Duration of use: 2 – 5 years, or duration of operations.
V	Temporary access during frozen periods between and within cutblocks. Duration of use: 2 years or less.

**road deactivation**

Where the regular use of a logging road is suspended, measures are taken to control erosion and to prevent the sedimentation of water bodies. This may involve either short-term (seasonal) activities such as cross ditching and waterbar construction or more long-term (semi-permanent or permanent) activities where drainage structures are removed and slopes are stabilized.

**road grade cut failure**

Road grade cut failure is a type of mass wasting that occurs when soil along a road grade moves down slope. Such failures have the potential to block ditches, create siltation and possibly trigger a slump. A road grade cut failure affects < or = 100 m<sup>2</sup> of ground surface area. See also mass wasting.

**root collar diameter (RCD)**

The diameter of a seedling's bole, measured just above the point of germination.

**rooting habit**

The characteristic rooting pattern of a species. For example, lodgepole pine has a deep tap root, white spruce has a shallow, spreading root system.

**RSTA**

This is an acronym for "*Resource and Timber Supply Analysis*". This is a process that explores the interactions between the various demands on the forest resource and the effects that the different management strategies eventually have on the values concerned. Also the document prepared by Olympic Resource Management for Canadian Forest Products Ltd. that includes the methodology and protocols for establishing the annual allowable cut.

**rut(s)**

Soil ruts are the modification of soil by the penetration of the soil by wheels or tracks because of a bearing capacity failure of the soil. A rut is determined by its depth and length:

- Where the depth of organic dark humus material is greater than 30 cm, a rut is a depression that shears the organic layer of the soil (a sheared organic will expose a vertical face greater than 20 cm of the organic layer).
- Where the depth of the organic material is less than 30 cm, a rut is a depression exceeding 10 cm into the mineral soil.

**satisfactorily restocked (SR)**

Cutover areas that have been surveyed as per the *Forests Act* and *Timber Management Regulations* and have met or exceeded the restocking standard described therein. See also not satisfactorily restocked (NSR) and free to grow.

**scaling**

Means to measure or estimate:

- The volume, area, length or mass of trees after they are felled; or
- The number of products obtained from trees after they are felled.

**scarify or scarification**

To disturb the forest floor and top soil in preparation for natural regeneration or direct seeding or planting.

**screef or screening**

To manually remove sticks, branches, duff and surface litter with a person's foot to prepare a site for planting seedlings.

**second cut**

Timber designated for removal which will be cut during the second harvest operation of the cutting cycle.

**seedbed**

In natural plant reproduction, the soil or forest floor on which seed falls; in nursery practice, a prepared area in which seed is sown.

**seedling**

A small tree grown from seed. Usually the term is restricted to trees less than 2 cm diameter breast height (DBH).

**seed tree**

Any tree which bears seed, specifically a tree, left to provide the seed for natural regeneration.

**seed tree method**

A harvest system in which individual trees or groups of trees are left standing to provide seed to encourage even-aged regeneration of the area harvested



**seepage area**

A surface area that frequently emits groundwater. It is usually found at the upper contact between a lower impermeable layer and an upper permeable layer. See also watersource area.

**seismic line**

Strips of land that have had the vegetation (and sometimes the surface soils) removed to permit the placement and detonation of underground explosive charges so that the underlying geological structure can be determined, primarily for the purpose of oil and gas exploration. Also called a cutline.

**selection cutting or method**

- A harvest system in which individual trees or small groups of trees are harvested periodically at relatively short intervals. Intended to maintain or create uneven-aged stands by continuous regeneration of seedlings; or
- An uneven-aged silvicultural system in which selected trees are harvested individually or in small groups at periodic intervals throughout a rotation.

**sensitive sites**

Sites that have soil, water, slope or other characteristics that require special protection beyond the precautions normally applied to management activities.

**sensitive soils**

Soils with characteristics that make them more susceptible to erosion, compaction or reduced productivity than other soils.

**seral stage**

The series of plant community conditions that develop during ecological succession from bare ground (or major disturbances) to the potential plant community capable of existing on a site where stand replacement begins and the secondary successional process starts again. See also old seral stage.

**silviculture**

The art, science and practice of controlling the establishment, composition, health, quality and growth of vegetation of forest stands.

**silviculture prescriptions**

A site-specific operational plan that prescribes the nature and extent of any timber harvesting and silviculture activities that are designed to achieve required forest management objectives, including reforestation of a free-growing stand to specified standards.



**site**

A land area based on its climatic, physical, biological and other factors that determine its suitability and productivity for particular species and silvicultural alternatives.

**site index**

A measure of forest site productivity expressed as the average height of the tallest trees in the stand at a defined index age. Common index ages are 40, 50, 70, 75, and 100 years. This is usually expressed as the predicted height for a specific tree species at a given breast height age.

**site preparation**

Any treatment of a forest site to prepare it for establishment of a plantation or for natural regeneration.

**skid trail**

A pathway over which logs are skidded.

**small permanent stream or watercourse**

Permanent streams that are present all year, but may freeze completely in winter. The banks and channel are well defined, with gravel and rubble usually present in the streambed. Channel width is between 0.5 and 5 m. Significant insect populations are associated with small permanent streams. As such, these streams may serve as spawning and seasonal habitat for fish during high flow periods. These are ranked 2<sup>nd</sup> or 3<sup>rd</sup> on the Strahler Classification System.

**snag**

A dead standing tree that may provide roosting or cavity nesting/denning opportunities for wildlife.

**snow press**

A condition caused by excessive amounts of snow, whereby seedlings are pressed off the vertical plane.

**softwood**

Generally, one of the botanical groups of trees that in most cases have needle or scale-like leaves; the conifers; also, the wood produced by such trees.

**spatial**

Pertaining to the physical size, location, pattern and distribution.



**species**

Trees having very similar genetic make-up, so that they freely interbreed and have common characteristics. In common language, a “kind” or “variety.” Each species is identified by a scientific name that consists of a genus portion and then a species portion.

**SPF**

The 3 wood species typically used in lumber production at Interior Canfor sawmills – spruce, pine and balsam fir.

**stand**

See “forest stand”.

**Strahler Classification System**

A hierarchical stream order classification system developed by A. Strahler that numerologically identifies streams commencing at the upper reaches of a watershed and concluding at the lower reaches. The system begins by numbering all non-branching channels as a first order. When two first order streams meet, the channel is identified as a second order; when two second order streams meet, the channel becomes third order; and so on. Figure 1 indicates how the classification system is completed.

**stream channel**

Area of a watercourse to the height of annual peak flows.

**strippings**

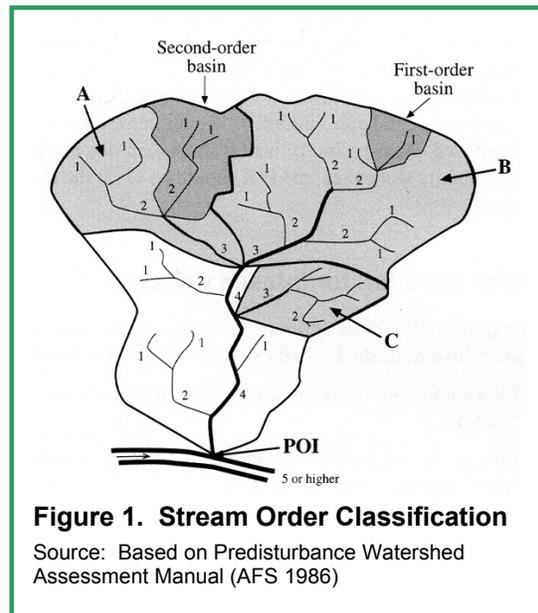
Layers of topsoil and fine debris above mineral soil.

**sucker**

A sprout from the lower portion of a stem, especially from the root.

**sustainable forest management performance**

The assessable results of sustainable forest management as measured by the achievement, or lack thereof, of established objectives for a defined forest area (CSA 1996).



**sustainable forest management system**

This refers to the structure, responsibilities, practices, procedures, processes, and timeframes set by a registration applicant for implementing, maintaining, and improving sustainable forest management.

**sustainability**

The ability of an ecosystem to maintain ecological processes and functions, biological diversity, and productivity over time.

**sustained yield of timber**

A forest management regime that involves more or less continuous harvesting, balanced by growth, over managed forest units.

**temporal**

Pertaining to time.

**timber**

A term loosely applied to forest stands or their products; often applied to wood in forms suitable for heavy construction (houses, ships, bridges).

**timber license**

Means a timber disposition issued pursuant to the *Forests Act* and associated regulations authorizing a quota holder to cut crown timber.

**timber quota**

Means a share of the allowable cut of coniferous timber within a forest management unit and may also include an allocation by area of deciduous timber within a forest management unit (FMU).

**travel corridors**

An area with vegetated cover that reduces wildlife exposure to predators and weather, and is used by wildlife to travel from one habitat area to another.

**tree**

A woody plant having one well-defined stem and a more or less definitely formed crown, usually attaining a height of at least 8 ft.

**TSP**

This is the acronym for “temporary sample plot”. A TSP is a plot established to collect forest inventory data for use in the calculation of the annual allowable cut (AAC).



**type (forest)**

A group of forested areas or stands of similar composition; forest types are usually separated and identified by species composition and often by height and crown closure classes.

**understorey**

Trees and other woody species growing under the canopies of larger adjacent trees and other woody growth.

**utilization standard**

The size, species or quality characteristics that determine whether a tree, portion of a tree or stand is merchantable. Current utilization standards for coniferous and deciduous operators on Canfor's FMA area are:

- A merchantable stand is defined as a stand:
  - Having 50 m<sup>3</sup> or more of merchantable trees per hectare, and
  - Meeting the minimum harvest age as defined in the relevant detailed forest management plan.
- A merchantable tree is defined as a tree having:
  - A minimum 15 cm stump diameter, measured outside bark at 30 cm above ground level;
  - A minimum 4.88 m usable length to a top diameter measured inside bark of 10 cm; and
  - At least 50% sound wood.
- A merchantable piece is a portion of a log having:
  - At least 50% sound wood;
  - For coniferous – a length of 2.44 m plus trim allowance, to a maximum length of 2.55 m to an 10 cm small end diameter inside bark; and
  - For deciduous – a length of 4.88 m.

**value**

A principle, standard, or quality considered worthwhile or desirable.

**value-added**

Processing products so they meet a customer's special needs while adding sufficient margin to cover any increase in cost.

**WCACSC**

This is the acronym for "West Central Alberta Caribou Standing Committee". This Committee has established *Operating Guidelines for Industrial Activity within the Caribou Ranges of West Central Alberta* (WCACSC 1996) and is currently involved with caribou research initiatives.



**watercourse**

Bed and bank or a river, stream, or creek, the shore of a lake, lagoon, swamp, marsh or other natural body of water, whether it contains or conveys water continuously or intermittently and to be inclusive to the normal high water mark. See also intermittent, ephemeral and permanent watercourse.

**watersource area**

That portion of a watershed between the valley breaks of a permanent, intermittent or ephemeral watercourse where soils are water saturated and/or surface flow occurs and contributes directly to stream flow.

**WESBOGY**

This is the acronym for “Western Boreal Growth and Yield Association”. WESBOGY is a forest industry association, which has, since 1987, been conducting research to advance understanding of the dynamics of boreal mixedwood stands under intensive management.

**white wood**

The fiber portion of a log that is light in colour and does not include the bark.

**wildlife**

Means big game, birds of prey, fur-bearing animals, migratory game birds, fish, non-game animals, non-license animals and upland game birds, and includes any hybrid offspring resulting from the crossing of two wildlife animals.

**windfall**

A tree uprooted or broken off by wind; an area on which the trees have been thrown by wind. Also known as windthrow or blowdown.

**windfirm**

The ability of trees or stands of trees to withstand moderate to heavy winds without blowing down.

**windthrow**

A tree or trees uprooted or broken off by wind. Also known as windfall or blowdown.

**woodlands**

Operations that are involved in the growing and harvesting of trees.

**wood residue**

Is the remaining portion of a log that cannot be made into a useable product and may be comprised of various by-products such as sawdust, bark and non-useable trim ends. Residual wood from lumber manufacturing that is suitable as a fuel in a wood residue boiler or incinerator.





## **M. LIST OF APPENDICES**

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The following appendices are contained in a separate binder:

<b>Appendix 1</b>	Forest Management Agreement 9900037
<b>Appendix 2</b>	Corporate Profiles
<b>Appendix 3</b>	<i>Resource and Timber Supply Analysis</i>
<b>Appendix 4</b>	Forest Management Advisory Committee <i>Issues List</i>
<b>Appendix 5</b>	Public Involvement Program for Canadian Forest Products Ltd. FMA 9900037
<b>Appendix 6</b>	Chronological History Forest Management Advisory Committee
<b>Appendix 7</b>	<i>CSA Matrix</i>
<b>Appendix 8</b>	Rare Plant List
<b>Appendix 9</b>	Summary of Reforestation Activities
<b>Appendix 10</b>	Canfor's Mission Statement
<b>Appendix 11</b>	<i>Canfor's Forestry Principles</i>
<b>Appendix 12</b>	Equivalent Clearcut Area Tables
<b>Appendix 13</b>	Growth and Yield Monitoring Program
<b>Appendix 14</b>	Model II - Objective Driven Performance Standards
<b>Appendix 15</b>	CSA / Research Project Linkages

