

Appendix 1

Glossary of Forestry Terms

Age Class

The classification of different stands in a forest, or trees in a stand, into a series of ages (e.g., 1 to 20 years might be Age Class 1, 21 to 40 might be Age Class 2, and so on).

Algorithm

A set of mathematical instructions or problem-solving procedures designed to provide answers to complex problems

Annual Allowable Cut (AAC)

The volume of wood (m³) that can be harvested in one year from any area of forest under a sustained yield management regime. The choice of AAC is based on knowledge of 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.

Anthropogenic

Made or induced by humans.

AOP

This is the acronym for “annual operating plan”

Aspatial

Without regard for spatial relationship

Biodiversity (biological diversity)

The diversity of life in all its forms and levels of organization and includes genes, species, and ecosystems.

Buffer Zone

An area or edge of a protected area that has land-use controls that only allows activities compatible with the objectives of the protected area. The objective of the buffer zone is to provide added protection for the core reserve area.

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.

Coarse Woody Debris

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.

Coniferous

Cone bearing trees with needle or scale-like leaves belonging to the botanical group Gymnospermae.

Criterion

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

Cut Control Period

A period of five consecutive forest management operating years (FMA agreement)

Cutblock

An area defined on the ground and planned for harvest, usually in one season.

Deciduous

Trees belonging to the botanical group Angiospermae with broad leaves, usually these trees shed their leaves annually.

Defined Timber Yield

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

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.

Down Woody Debris

Debris left after harvesting. Although sometimes visually unappealing, it plays an important role in nutrient cycling, and provides microsites for conifer seedlings and habitat for wildlife.

Ecology

The science that studies the interrelationships, distribution, abundance, and contexts of all organisms and their interconnections with their living (biotic) and nonliving (abiotic) environment, in addition to the processes that determine ecosystem function, change over time and response to disturbances.

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

An interacting system of living organisms (plants and/or animals), soil and climatic factors. Foresters consider a forest an ecosystem.

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^3/ha) than the site previously had, but NOT maximize it as in Intensive Forest Management (see Intensive Forest Management).

Equivalent Clearcut Area (ECA)

This 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.

Even-aged Management

A planned sequence of treatments designed to maintain and regenerate a forest stand with one age class. The range of tree ages is usually less than 20 percent of the rotation.

Fine Woody Debris

The smaller branches, twigs, leaves, and roots from trees that have fallen or been cut and left in the woods.

Forest Inventory

A survey of the forest area to determine such data as area by condition, timber volume, species of trees, wildlife and habitat types, environmentally sensitive areas, and critical habitats, for the purposes of planning, purchase, evaluation, management, and/or harvesting.

Forest Management Advisory Committee (FMAC)

A committee comprised of local stakeholder groups who are directly affected by or who have an interest in the management of the forest resources. This committee has been formed to review Canfor's harvest plans and to identify issues of concern.

Forest Management Agreement (FMA)

A legal agreement signed between a private forest 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 Forest Management Units (FMUs) (see Forest Management Units).

Forest Management Unit (FMU)

An area of forest managed as a unit for fibre production.

Geographic Information System (GIS)

The use of a computer system to overlay large volumes of spatial data of different kinds. The data are referenced to a set of geographical coordinates and encoded in computer (digital) format so that they can be sorted, selectively retrieved, statistically and spatially analyzed. The different data planes can be overlain in virtually any order, and can be used to test a variety of questions and “what if” scenarios in modeling possible outcomes from different management regimes, or disturbances in the landscape at an infinite number of scales. See Spatial Database.

Goal

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

Green-up Period

The time needed to re-establish vegetation after a disturbance such as wildfire or logging. Specific green-up periods may be established for visual constraints, hydrological requirements, or as a means of ensuring re-establishment of vegetation (for silviculture, wildlife habitat, or hydrology reasons) before adjacent stands can be harvested.

Growing Stock

The trees growing in a forest or stand, usually measured as number of trees or volume per unit area.

H60

H60 is the elevation above which 60% of the watershed lies (the watershed area above the H60 line).

Habitat Suitability Index (HSI)

A measure estimated by modeling, 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.

Historic Site

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.

Hydrologic Cycle

The naturally occurring, solar-driven cycle of evapotranspiration, condensation, precipitation, and runoff of water. The cycle involves the movement of water between the atmosphere and terrestrial, aquatic, and ocean environments.

Hydrological recovery

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

Indicator

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

Intensive Forest Management

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

Landscape

1. An expanse of natural or human-made scenery, comprising landforms, land cover, habitats, and natural and human-made features that, taken together form a composite. The characteristic features of any one landscape form the basis for common classification themes and can evoke emotional or psychological stimuli through description alone (e.g., mountainous landscapes, grasslands, tundra, agricultural). Some consider the extent of the landscape to be limited to what can be seen in one view by the naked human eye. Others see landscape as ranging in scale from a few hectares to large tracts of land may square kilometers in extent. 2. A mosaic of habitat types occupying a spatial scale intermediate between an organism's normal home range size and its regional distribution.

Long Run Sustained Yield (LRSY)

The hypothetical timber harvest that can be maintained indefinitely from a management area once all the stands have been converted to a managed state under a specific set of management activities.

LFS

This is the acronym for "Alberta Sustainable Resource Development, Land and Forest Service"

Mean Annual Increment (MAI)

This is the acronym for "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.

Morphology

The form and structure of living organisms or the surficial shape of an object independent of its function. A person who studies morphology is termed a morphologist.

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. (PBC, MF 2000)

Not Satisfactorily Restocked (NSR)

Defines an area of forest land that has either been planted or left to natural regeneration, and which has not become sufficiently well established to meet a predetermined stocking level (see Stocking). Factors affecting the lack of establishment might include competing vegetation, animal damage, frost or drought kill, lack of seed, or poor planting stock

Northern East Slopes Environmental Resources Committee (ERC). A Forum for integrating the management and administration of the environment and natural resources of the Northern East Slopes Region. The ERC 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.

Old Seral

A forest of mature or overmature timber that is beyond its peak growing period. For the purposes of this document, the term old seral has been replaced with old seral stage to be consistent with the Detailed Forest Management Plan (DFMP) terminology.

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.

Operability (Logging)

Classification of a forest site based on the potential to harvest the timber on this site. The physiographic characteristics and moisture conditions of the site are critical to this classification, as is the harvesting equipment available and the technology associated with the harvesting operation

Periodic Annual Increment (PAI)

The growth increment added in the past few years.

Patch

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

Pre-harvest Assessment (PHA)

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.

Pre-harvest Silviculture Prescriptions (PHSP)

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

Quota

Means an allocation of timber.

Regen Delay (regen lag)

The time from harvest until establishment of a regenerated stand.

Reserve

In its strictest sense, an area of land designated as being off-limits to any exploitive activities that might change the nature of the area. Not all reserves are so tightly controlled.

Rotation

Also called tree age rotation. Broadly, the time needed from regeneration of a crop of trees through to harvestable timber.

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.

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.

Sensitivity Analysis

An analytical procedure in which the value of one or more parameters is varied and the changes that this produces are analyzed in a series of iterative evaluations. If a small change in a parameter results in a proportionately larger change in the results, the results are said to be sensitive to the parameter.

Site Productivity (capability)

The potential biomass capable of being produced on any one site. Note that productivity may be helped or hindered by various management activities and is a function of site quality. It is measured as the mean annual increment of merchantable volume at or near rotation age, which can be expected from any one site assuming that the stand is fully stocked by one or more species best adapted to the site. Productivity on a high quality site would normally be greater than that possible on a low quality site.

Silvicultural System

One or more planned treatments planned for a forest stand that are designed to encourage the generation of a new stand of trees following harvesting and maintain that

stand through to the next point of harvest (i.e., one **rotation**). The term encompasses the type of cutting, the stand treatments, and any intermediate cuttings.

Silviculture

The art, science, and practice of controlling the establishment, composition, health, quality, and growth of the vegetation of forest stands. Silviculture involves the manipulation, at the stand and landscape levels, of forest and woodland vegetation, including live vegetation, and the control or production of stand structures, such as snags and down logs, to meet the needs and values of society and landowners on a sustainable basis.

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 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.

Spatial

With regard to the proximity relationship between two or more objects.

Spatial Analysis

The process of modeling, examining and interpreting model results. Spatial analysis is the process of extracting or creating new information about a set of geographic features. Spatial analysis is useful for evaluating suitability and capability, for estimating and predicting, and for interpreting and understanding.

Spatial Database

A collection of interrelated, geographically referenced data stored without unnecessary redundancy to serve multiple applications as part of a geographic information system. See Geographic Information System.

Stand

An aggregation of trees occupying a specific area and sufficiently uniform in composition, age arrangement, and condition so that it is distinguishable from the forest in adjoining areas. Stands are the basic management unit in silviculture.

Stocking

A qualitative measure of the adequacy of tree cover on an area in relation to a predefined norm (i.e., stems per hectare) expressed in the same units of measurement. Unless otherwise specified, stocking includes trees of all ages. The term stocking assumes a timber management objective as the primary orientation. Land considered understocked by a timber manager may in fact be at an ideal stocking for the wildlife manager.

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.

Sustainable Forest Development

Maintaining, without unacceptable impairment, the productive and renewal capacities, as well as the genetic, species, and ecological diversity of forest ecosystems.

Sustainable Forest Management

Forest management regimes that maintain the productive and renewal capacities, as well as the genetic, species and ecological diversity of forest ecosystems. Sustainable forest management is required to obtain sustainable forest development.

Sustainable Forest Management System

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

Sustained Yield of Timber

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

Transpiration and Precipitation Interception

Means the interception of precipitation, usually by evaporation or transpiration, before it can become part of the water table.

Value

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

Water yield

The quantity of water derived from a unit area of watershed.

West-Central Alberta Caribou Standing Committee (WCACSC)

An umbrella organization bringing together all stakeholders involved (industry and government) with the purpose of facilitating a self-regulatory process that will integrate caribou conservation and resource development in the area.

Wood residue

The remaining portion of a log that cannot be made into a useable product and may be comprised of various by-products such as saw dust, shavings, bark and trim ends.

Yield

In timber management, the volume of wood available for harvest at the end of a rotation period, usually measured as unit volume per unit area (e.g., cubic metres per hectare) or the amount of output actually harvested and usable (e.g., volume of timber extracted).

Yield Table

In its simplest form, a plot of expected fibre yield in terms of volume per unit area against stand age. The basic plot produces a normal yield table that assumes the site is fully stocked or has a normal stand density.