



June 11, 2012

Mid-Term Timber Supply

Glossary of Terms

allowable annual cut (AAC)

Rate of timber harvest permitted each year from a specified area of land.

area-based tenure

Area-based tenures grant a licensee virtually exclusive rights to harvest timber within a specified area. (see *volume-based tenure*)

Association of BC Forest Professionals (ABC FP)

Pursuant to the *Foresters Act*, the practice of professional forestry is a regulated activity in British Columbia. In simplest terms, the *Foresters Act* defines the practice of professional forestry, establishes the Association of BC Forest Professionals (www.abcfp.ca), stipulates that one must be a member of the ABCFP to engage in the practice of professional forestry and, charges the association with the administration of the *Foresters Act* and vests all authority to govern the association in its council.

base case

A benchmark for judging the desirability of alternative land use plan scenarios. It shows environmental, social, and economic conditions expected to occur if existing policies, plans, and practices are followed.

base case harvest forecast

The reference point for sensitivity analysis, illustrating the effect of current forest management practices on the timber supply using the best available information.

BC Bioenergy Strategy (www.energyplan.gov.bc.ca/bioenergy/)

A strategy to help British Columbia reduce greenhouse gas emissions, strengthen long-term competitiveness and electricity self-sufficiency. It turns the challenges of the mountain pine beetle infestation into new opportunities and looks to future bioenergy technologies.

BC Timber Sales (BCTS)

BC Timber Sales (www.for.gov.bc.ca/bcts/) was founded in 2003 with a mandate to provide the cost and price benchmarks for timber harvested from public land in British Columbia. It manages some 20% of the provincial Crown allowable annual cut.

Beetle Action Coalitions (BAC)

Three coalitions in the Cariboo-Chilcotin, Omineca and Southern Interior that have prepared regional-scale strategies and implemented mitigation plans in response to the mountain pine beetle epidemic.

biodiversity

The biological diversity of plants, animals and other living organisms in all their forms and levels of organization, including the biological diversity of genes, species and ecosystems;

biomass

Organic material derived directly from plants. In B.C., wood residue – material left over from forestry operations – is the most abundant and readily available source of biomass, and represents the largest opportunity for electricity generation.

biomass industries

Industries that use forest biomass or sawmill residues for such things as wood pellets, fibre boards or electrical energy plants. Emerging biomass industries include chemical and bio-materials producers.

British Columbia Mountain Pine Beetle Model (BCMPB)

The Provincial-Level Mountain Pine Beetle Model (BCMPB) projects the possible course of the mountain pine beetle outbreak. It is used to estimate pine mortality, and to provide forest managers with insight into how the infestation may progress into the future. Projection reports and updates have been published annually since 2004 – BCMPB v9 is the latest model.

Cariboo Chilcotin Beetle Action Coalition (CCBAC)

See Beetle Action Coalitions

Cariboo-Chilcotin Land Use Plan (CCLUP)

A legal higher level plan that established numerous land use designations in the Quesnel, Williams Lake and 100 Mile House Timber Supply Areas. Cabinet approved the Cariboo-Chilcotin Land Use Plan as a higher level plan under the *Forest Practices Code* in 1996, and established its zones, objectives, targets and strategies as legal requirements as they applied to operational forestry planning.

chief forester (CF)

An independent position appointed by order in council who determines an allowable annual cut for each timber supply area and tree farm licence at least once every 10 years.

clearcut harvesting

A harvesting method in which most trees are removed from an area of land in a single harvest, and the harvested site is then regenerated. Most clearcuts include retention of some live trees and snags.

clearcutting with reserves

A variation of the clearcut silvicultural system in which trees are retained, either uniformly or in small groups, for purposes other than regeneration.

coarse filter approach

An ecosystem approach to protecting biodiversity by reserving areas across the landscape, e.g. old growth management areas. (*see fine filter approach*)

coarse woody debris (CWD)

Logs and stumps that provide habitat for plants, animals and insects, and a source of nutrients for soil development.

commercial thinning

A silviculture treatment where trees large enough to be sold as products such as poles or fence posts are removed from an overstocked stand to improve the health and growth rate of the remaining trees.

community forest agreement

An area-based tenure that grants exclusive rights to a First Nation, municipality or regional district to harvest an allowable annual cut for a specific area. As of January 2012, about 1.28 million hectares were being managed as community forests. There are currently 47 active community forests in British Columbia and another nine communities in the application process. Burns Lake Community Forest was offered the first 25-year licence in September 2004.

connectivity corridor

A landscape's structural and functional continuity over both space and time that allows species and communities to disperse freely.

cutblock

A specific area, with defined boundaries, authorized for harvest.

cutblock adjacency

Requiring that recently harvested areas must achieve a desired condition (green-up) before nearby or adjacent areas can be harvested.

district manager (DM)

A manager of a Ministry of Forests, Lands and Natural Resource Operations (forest) district with specific responsibilities under the *Forest Act*, *Range Act*, *Forest and Range Practices Act* and others.

employment coefficient

The number of person-years of employment supported by every 1,000 cubic metres of timber harvested; for example, a coefficient of 1.0 indicates that every 1,000 cubic metres harvested supports one person-year and every 500,000 cubic metres supports 500 person-years.

even-aged silvicultural system

Systems such as clearcutting, seed tree and shelterwood designed to regenerate and maintain a stand or forest type with relatively small (10 to 20 years) age differences between individual trees.

falldown

Government issued allowable annual cut uplifts in response to the mountain pine beetle so more trees could be harvested while they maintain economic value. Now that much of the dead pine has been harvested, there will be a reduction, or falldown, reducing the harvest. (*see uplift*)

fine filter approach

Evaluates whether sufficient amount and distribution of habitat is provided for specific species or ecosystems whose unique needs are not addressed by a coarse filter strategy. (*see coarse filter approach*)

FLNRO (Ministry of Forests Lands and Natural Resource Operations)**Forest and Range Practices Act**

The *Forest and Range Practices Act* and its regulations govern the activities of forest and range licensees in British Columbia, setting requirements for planning, road building, logging, reforestation, and grazing.

Forests for Tomorrow

A Ministry of Forests, Lands and Natural Resource Operations program set up in 2005 to improve future timber supplies and ecosystems through investments in seed and seedling production, site preparation, planting and fertilization, surveying, mapping, and research. The program, introduced in response to catastrophic wildfires and the mountain pine beetle epidemic, aims to strengthen the resilience of B.C.'s forests to climate change and natural disturbances.

forest inventory

An accounting of the trees and other land cover in British Columbia's forests. The forest inventory includes computerized maps and a database describing the location and nature of forest cover, including size, age, timber volume, and species composition.

forest inventory planning (FIP)

The acronym often used for the photo-interpretation forest inventory system and data collection standards that preceded the introduction of the vegetation resources inventory (VRI) in 1996.

Forest Practices Code

Legislation replaced by the *Forest and Range Practices Act*, which took effect on Jan. 31, 2004.

fuel management

The process of modifying forest and range fuels (trees, low branches, needles, and woody debris) to achieve specific land management objectives, including managing forest fuels in and around communities in order to reduce the potential for devastating wildfires.

Government Actions Regulation (GAR)

A regulation under the Forest and Range Practices Act that provides for the designation and management of certain resource values such as species at risk, wildlife, community watersheds, visual quality, resource features and others. Orders made under the Government Actions Regulation only apply to persons operating under the Forest and Range Practices Act, and does not direct tenures issued under other legislation.

green attack

Adult mountain pine beetles tunnel underneath the bark to lay their eggs. The tree dies soon after, but the needles stay green for several months.

ground sampling

The on-the-ground measurement of trees and vegetation on sample plots. Ground samples validate and supplement the photo-interpreted inventory. Ground sampling includes sectioning trees to determine decay, measuring standing yield, and monitoring stand growth.

growing stock

The volume estimate for all standing timber at a particular time.

growth and yield

Growth and yield is focused on describing how individual stands of trees change with time, primarily through processes of tree species reproduction, establishment, growth, mortality and interaction.

harvest forecast

A measure of the maximum timber supply that can be realized over time for a specified land base and set of management practices. The result of forest planning models, it is affected by size and productivity of the land base; current growing stock; and management objectives, constraints and assumptions.

harvest billing system (HBS)

A Ministry of Forests, Lands and Natural Resource Operations business process that captures detailed scale data, electronically, on a daily basis, at its source.

higher-level plans (HLP)

Higher-level plans establish the broader, strategic context for operational plans, providing objectives that determine the mix of forest resources to be managed in a given area. The term “higher-level plan” was used under the *Forest Practices Code Act of BC*, and was frequently used to establish legal zones and objectives for forestry operational planning. The *Land Act* is currently used to establish legal objectives although many plans still refer to higher-level plans.

improved stock

Trees selected from the natural population with better than average characteristics such as growth rates.

indirect and induced jobs

Indirect jobs are supported by direct business purchases of goods and services. Induced jobs are supported by employee purchases of goods and services; for example, at retail outlets.

inoperable areas

Areas defined as unavailable for harvest for terrain-related or economic reasons such as distance from processing facilities, existing roads, difficulty of road access, and availability of suitable timber. This can change over time with changing harvesting technology and economics.

integrated resource management

The identification and consideration of all resource values, including social, economic and environmental needs, in resource planning and decision-making.

land and resource management plan (LRMP)

A strategic, multi-agency, integrated resource plan at the sub-regional level based on the principles of enhanced public involvement, consideration of all resource values, consensus-based decision making, and resource sustainability.

Land-Based Investment Strategy

A strategy to guide investments in British Columbia’s natural resources such as reforestation and tree improvement to realize environmental sustainability and economic prosperity.

(www.for.gov.bc.ca/hcp/fia/landbase)

landscape-level biodiversity

The *Landscape Unit Planning Guide* provides objectives for maintaining biodiversity at both the landscape level and the stand level. At the landscape level, guidelines are provided for the maintenance of seral stage distribution, patch size distribution and landscape connectivity. (see *stand-level biodiversity*)

landscape unit

A planning area based on topographic or geographic features, that is appropriately sized (up to 100,000 hectares), and designed for application of landscape-level biodiversity objectives.

land use planning (LUP)

The process of inventorying and assessing the status, potential, and limitations of a particular geographic area (the land base) and its resources, with a view to planning and managing these resources to satisfy human needs now and in the future.

LiDAR

LiDAR (Light Detection And Ranging) is an airborne laser scanning technology that can map ground surface terrain and forest canopy height. LiDAR can provide enhanced forest inventory information.

long-term harvest level

A harvest level that can be maintained indefinitely.

landscape vegetation inventory (LVI)

A new, flexible, alternative inventory tool that provides spatial and attribute products with coarser resolution than vegetation resources inventory (VRI) products, but faster and at lower cost.

mid-term timber supply

The mid-term timber supply is the amount of timber available for harvest in the next 20 to 60 years. Most of these trees are already growing – actions such as fertilization and thinning can help them grow faster and stronger. Trees planted now will make up the long-term timber supply.

minimum harvestable age

The age at which a stand of trees is expected to achieve a merchantable condition. The minimum harvestable age could be defined based on maximize average productivity (culmination of mean annual increment), minimum stand volume, or product objectives (usually related to average tree diameter).

Ministry of Forests Lands and Natural Resource Operations (FLNRO)**model**

An abstraction and simplification of reality constructed to help understand an actual system or problem. Forest managers and planners have made extensive use of models, such as maps, classification systems and yield projections, to help direct management activities.

mountain pine beetle (MPB)

Mountain pine beetles are a natural part of the ecosystem in British Columbia's interior forests. They attack mature pine trees by laying eggs under the bark. When the eggs hatch, the larvae mine the phloem area beneath the bark and eventually cut off the tree's supply of nutrients.

natural range barrier

A naturally occurring feature that stops or significantly impedes livestock movement to and from an adjacent area.

Net Volume Adjustment Factors (NVAF)

An integral part of the Vegetation Resources Inventory (VRI), NVAF sampling collects data on a number of selected trees to account for errors in the estimates of net tree volume. This data, used in conjunction with the original ground sampling data, provides an unbiased estimate of the net volume in the project area.

natural range of variability (NROV)

The spectrum of ecosystem states and processes encountered over a long time period. It is typically defined by the period 100-200 years before European settlement, and is surmised from knowledge of natural disturbance regimes.

non-merchantable forest types

Stands that are accessible and otherwise available for harvesting but are non-merchantable because of small piece size, incidence of decay, species composition and low stocking.

non-spatial

Setting a target percentage within a geographic unit rather than setting aside a specific area for retention of values such as old growth.

non-timber forest products

Products of biological origin other than wood derived from forests, other wooded land and trees outside forests such as forest plants and mushrooms.

Northern Interior Development Initiative

Established in 2004, focuses on providing loans and grants to stimulate economic diversification and job creation in Central and Northern British Columbia.

not sufficiently restocked (NSR)

An area not covered by a sufficient number of well-spaced trees of desirable species according to stocking standards set by the B.C. Forest Service.

Omineca Beetle Action Coalition (OBAC)

See Beetle Action Coalitions

operational adjustment factor (OAF)

Netting down yield estimates to account for various factors that result in managed stands producing less than their full potential yields.

old-growth forest

A forest with live and dead trees of various sizes, species, composition, and age class structure. Old-growth forests are part of a slowly changing but dynamic ecosystem; the age and structure vary significantly by forest type.

old growth management area (OGMA)

Areas that contain, or are managed to replace, specific structural old-growth attributes and that are identified as special management areas. They are currently established under the *Land Act*, and timber harvesting is generally avoided in designated old growth management areas.

partition

A portion of the allowable annual cut that is attributable to certain types of timber and/or terrain.

person-year(s)

One person working the equivalent of one full year, defined as at least 180 days of work. Someone working full-time for 90 days accounts for 0.5 person-years.

Predictive Ecosystem Mapping (PEM)

An approach to stratifying the landscape into map units according to ecological features using a combination of ecological knowledge, existing data and computer modeling, with minimal ground sampling.

protected area

A designation for areas of land and water set aside to protect natural heritage, cultural heritage or recreational values (may include national park, provincial park, or ecological reserve designations).

Protected Areas Strategy (PAS)

A document released by the B.C. government in 1993, which described the policies and process to protect 12% of the province.

recreation sites and trails

Recreation sites and trails on Crown lands outside parks and municipalities managed by Recreation Sites and Trails BC, a branch of the Ministry of Forests, Lands and Natural Resource Operations.

red attack

The needles of a tree attacked by mountain pine beetles turn red as a result of the beetles killing the tree by mining the layer between the bark and the wood, cutting off the tree's supply of nutrients. The trees turn red about one year after infestation, and can stay in the red-attack stage for two to four years before turning grey as they lose their needles.

regional executive director (RED)

An executive position with specific responsibilities for a Ministry of Forests, Lands and Natural Resource Operations (forest) region under the *Forest Act*, *Forest and Range Practices Act* and other natural resource sector acts.

riparian management zone

An area (of specified width) required to be established under the *Forest and Range Practices Act* adjacent to certain streams, wetlands and lakes in order to protect the riparian reserve zone. Forest practices are permitted but are governed by regulation and site specific situations.

riparian reserve zone

An area (of specified width) required to be established under the *Forest and Range Practices Act* adjacent to certain streams, wetlands and lakes where forest practices, including road construction are restricted.

selection management

A silvicultural system used to maintain or create areas containing a wide range of tree ages or sizes. The time interval between harvests in such areas is fairly short (usually less than 30 years), and during these harvests either single scattered trees or small groups of trees are removed from across the entire area.

sensitivity analysis

A process used to examine how uncertainties about data and management practices could affect timber supply. Inputs to an analysis are changed, and the results are compared to a baseline or base case.

seral stages

Sequential stages in the development of plant communities that successively occupy a site and replace each other over time.

- early seral – usually younger than 40 years of age
- mature seral – usually between 80 and 120 years old
- old seral – forests with appropriate old forest characteristics, ages vary depending on forest type and biogeoclimatic variant.

set aside areas

An area where there is no harvesting on a temporary or permanent basis to protect values such as water quality, scenery, recreation, animal migration or range.

shelf life

The length of time wood from trees killed by mountain pine beetles retains at least minimum qualities of a sawlog. It depends on a number of economic and stand site conditions – for example, trees retain their value longer under drier conditions.

silvicultural treatments

Activities that ensure regeneration of young forests on harvested areas, enhance tree growth or improve wood quality in selected stands such as site rehabilitation and preparation, planting, spacing, fertilization and pruning.

site index

A measure of site productivity. The indices are reported as the average height, in metres, that the tallest trees in a stand are expected to achieve at 50 years.

Southern Interior Beetle Action Coalition (SIBAC)

See Beetle Action Coalitions

Southern Interior Development Initiative

Established in 2006 to grow and diversify the economy of the Southern Interior through economic development in 10 key sectors.

spatial

An area set aside for specific values, e.g. old growth management areas or wildlife habitat areas.

species at risk (SAR)

Species at risk designations are based on best available science to determine potential extinction or extirpation risk within B.C., and the need for special attention to ensure the persistence of the species.

Species at Risk Act (SARA)

The purposes of the federal *Species at Risk Act* are to prevent wildlife species in Canada from disappearing, to provide for the recovery of wildlife species that are extirpated (no longer exist in the wild in Canada), endangered, or threatened as a result of human activity, and to manage species of special concern to prevent them from becoming endangered or threatened.

stand-level biodiversity

A stand is a relatively localized and homogeneous land unit that can be managed using a single set of treatments. In stands, objectives for biodiversity are met by maintaining specified stand structure (wildlife trees or patches), vegetation species composition and coarse woody debris levels. (*see landscape-level biodiversity*)

timber harvesting land base (THLB)

Crown forest land within a timber supply area where timber harvesting is considered both acceptable and economically feasible, given objectives for all relevant forest values, existing timber quality, market values and applicable technology.

timber supply

The amount of timber that is forecast to be available for harvesting over a specified time period, under a particular management regime.

timber supply area (TSA)

An integrated resource management unit established in accordance with *Section 7* of the *Forest Act*.

timber supply review (TSR)

The timber supply review program began in 1992 to update British Columbia's timber supply regularly in each of 37 timber supply areas and 34 tree farm licences.

timber tenures

Government transfers specific rights to use Crown, or public, forest and range land and resources to others through tenure agreements, which can take the form of an agreement, licence or permit. The contract holder has specific rights to use public forests over a specific period of time, in exchange for meeting government objectives, including forest management obligations and the payment of fees including stumpage.

tree farm licence (TFL)

A licence area made up of private and Crown lands where a licensee has a nearly exclusive right to manage forests and to harvest an allowable annual cut.

uneconomic areas

Areas defined as unavailable for harvest for economic or terrain-related reasons. Characteristics used in defining uneconomic areas include distance from processing facilities, existing roads, difficulty of road access, and availability of suitable timber. Areas considered uneconomic can change over time as a function of changing harvesting technology and economics.

uneven-aged silvicultural system

Systems such as single-tree and group selection designed to create or maintain and regenerate an uneven-aged stand structure, with three or more age classes.

ungulate winter range (UWR)

Designated area under the *Forest and Range Practices Act* identified as being necessary for the winter survival of an ungulate species such as moose, deer, caribou and mountain goats.

unsalvaged losses

The volume of timber killed or damaged annually by natural causes (e.g., fire, wind, insects and disease) that is not harvested.

uplift

Government issued allowable annual cut uplifts in response to the mountain pine beetle so more trees could be harvested while they maintain economic value. Now that much of the dead pine has been harvested, there will be a reduction, or fall down, reducing the harvest. (*see falldown*)

vegetation resources inventory (VRI)

A photo-based, two-phased vegetation inventory design consisting of photo interpretation and ground sampling. The decision to conduct the inventory is based on a number of factors including age of the inventory, known problems of the inventory, recent catastrophic events (such as mountain pine beetle) and other emerging issues that require a new inventory.

visual quality objectives (VQO)

Defines a level of acceptable landscape alteration resulting from timber harvesting and other activities. A number of visual quality classes have been defined on the basis of the maximum amount of alteration permitted.

volume-based tenure

Volume-based tenures grant licensees the right to harvest a certain amount of timber within a specified timber supply area, allowing several licensees to operate in the same management unit. (*see area-based tenure*)

volume estimates

Estimates of yields from forest stands over time. Yield projections can be developed for stand volume, stand diameter or specific products, and for empirical (average stocking), normal (optimal stocking) or managed stands.

watershed

An area drained by a stream or river. A large watershed may contain several smaller watersheds.

wildlife habitat areas (WHA)

Mapped areas designed to protect sites needed for species or community survival such as hibernation dens, nesting sites or migration areas.

wildlife tree patch (WTP)

Special areas set aside from harvesting to retain and encourage wildlife and biological diversity. They may contain one or several trees.

More information:

Ministry of Forests, Lands and Natural Resource Operations glossary

www.for.gov.bc.ca/hfd/library/documents/glossary/