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**Salmonid:** a fish of the fish family Salmonides; for example salmon, trout and chars.

**Salvage harvesting:** logging operations specifically designed to remove damaged timber (dead or in poor condition) and yield a wood product. Often carried out following fire, insect attack or windthrow.

**Sanitation treatment:** tree removal or modification operations designed to reduce damage caused by forest pests and to prevent their spread.

**Sapling:** a loose term for a young tree no longer a seedling but not yet a pole, about 1 - 2 m high and 2 - 4 cm DBH, typically growing vigorously and without dead bark or more than an occasional dead branch. Also, a young tree having a DBH greater than 1 cm but less than the smallest merchantable diameter.

**Sapwood:** the light-coloured wood that appears on the outer portion of a cross-section of a tree. See Cambium.

**Scaling:** the measuring of lengths and diameters of logs and calculating deductions for defect to determine volume.

**Scalping:** site preparation method which exposes favorable mineral soil for tree seedlings to be planted in.

**Scarification:** a method of seedbed preparation which consists of exposing patches of mineral soil through mechanical action.

**Scenic area:** any visually sensitive area or scenic landscape identified through a visual landscape inventory or planning process carried out or approved by the district manager.

**Screefing:** removal of herbaceous vegetation and soil organic matter to expose a soil surface for planting.

**Second growth:** a forest or stand that has grown up naturally after removal of a previous stand by fire, harvesting, insect attack or other cause.

**Second pass:** the next entry to harvest timber after green-up (or other recovery objective) occurs.

**Secondary channel:** subordinate channel in a stream reach with more than one channel; minor channel in a floodplain.

**Sedimentation:** the process of subsidence and deposition by gravity of suspended matter carried in water; usually the result of the reduction of water velocity below the point at which it can transport the material in suspended form.

**Seedlot:** a quantity of cones or seeds having the same species, source, quality and year of collection.

**Seed orchard:** a plantation of specially selected trees that is managed for the production of genetically improved seed.

**Seed source:** the locality where a seedlot was collected. If the stand from which collections were made was exotic, the place where its seed originated is the original seed source.

**Seed tree silvicultural system:** an even-aged silvicultural system in which selected trees (seed trees) are left standing after the initial harvest to provide a seed source for natural regeneration. Seed trees can be left uniformly distributed or in small groups. Although regeneration is generally secured naturally, it may

be augmented by planting. Seed trees are often removed once regeneration is established or may be left as reserves.

**Seed trees:** trees selected to be left standing to provide seed sources for natural regeneration. Selection is usually on the basis of good form and vigor, the absence of serious damage by disease, evidence of the ability to produce seed, and wind firmness.

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

**Seedling:** a young tree, grown from seed, from the time of germination to the sapling stage, having a DBH equal or less than 1 cm.

**Seedlots:** seed from a particular collection event, either from a single tree collection or a pooling of seed from many trees.

**Seepage zone:** an area on a hillslope or at the slope base where water frequently or continuously springs to the surface.

**Seismic line:** a constructed trail used for seismographic exploration.

**Selection silvicultural system:** a silvicultural system that removes mature timber either as single scattered individuals or in small groups at relatively short intervals, repeated indefinitely, where the continual establishment of regeneration is encouraged and an uneven-aged stand is maintained. As defined in the Forest Practices Code of British Columbia Operation Planning Regulation, group selection removes trees to create openings in a stand less than twice the height of mature trees in the stand.

**Selective logging:** removal of certain trees in a stand as defined by specific criteria (species, diameter at breast height, or height and form). It is analogous to highgrading. Not to be confused with the selection silvicultural system.

**Semi-permanent bridge:** a bridge having a substantial proportion of its components constructed of steel, concrete, or timber that has been pressure-treated with a suitable preservative.

**Senior official:** a senior official means:

- a district manager or regional manager,
- a person employed in a senior position in the Ministry of Forest, Ministry of Environment, Lands, and Parks or the Ministry of Energy, Mines and Petroleum Resources, who is designated by name or title to be a senior official for the purposes the Act by the minister of that ministry.

**Sensitive areas:** small areas designated to protect important values during forest and range operations. These areas, established by a Ministry of Forests district manager in consultation with a designated B.C. Environment official, guide operations on a site-specific basis and require a combination of forest practices. Sensitive areas will be mapped by resource agencies, and include regionally significant recreational areas, scenic areas with high visual quality objectives, and forest ecosystem networks.

**Sensitive areas objectives:** to adequately manage, protect, and conserve the resources of the area. Sensitive areas may be designated under the Forest Practices Code of British Columbia Act, through a planning process, or by the Ministry of Forests district manager and designated B.C. Environment official (for example, forest ecosystem networks and the setting of visual quality objectives for sensitive scenic areas).

**Sensitive resource area:** an identifiable geographic unit of the forest land base that requires a specific combination of forest practices to adequately protect important resource values.

**Sensitive slopes:** any slope identified as prone to mass wasting.

**Sensitive soils:** forest land areas that have a moderate to very high hazard for soil compaction, erosion, displacement, mass wasting or forest floor displacement.

**Sensitive/vulnerable species:** Sensitive or vulnerable species as identified by the Ministry of Environment, Lands and Parks. Blue-listed species are considered to be vulnerable and "at risk" but not yet endangered or threatened. Populations of these species may not be declined by their habitat or other requirements are such that they are sensitive to further disturbance. The blue list also includes species that are generally suspected of being vulnerable, but for which information is too limited to allow designation in another category.

**Sensitive watershed:** a watershed that is used for domestic purposes or that has significant downstream fisheries values, and in which the quality of the water resource is highly responsive to changes in the environment. Typically, such watersheds lack settlement ponds, are relatively small, are located on steep slopes, and have special concerns such as extreme risk of erosion.

**Seral stage:** any stage of development of an ecosystem from a disturbed, unvegetated state to a climax plant community.

**Settlement pond:** larger than a catchment basin and preferably with lower velocity waterflows that enable suspended sediment to settle before the flow is discharged into a creek.

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

**Shearing:** in Christmas tree culture, to prune the branches to make dense foliage and give the tree a conical shape.

**Shelterwood silvicultural system:** a silvicultural system in which trees are removed in a series of cuts designed to achieve a new even-aged stand under the shelter of remaining trees.

**Sidecast:** moving excavated material onto the downslope side of a temporary access structure, excavated or bladed trail, or landing during its construction.

**Sills:** a single structural member used as a foundation to transfer the loads from the bridge superstructure to the supporting soil.

**Silvics:** the study of the life history, requirements and general characteristics of forest trees and stands in relation to the environment and the practice of silviculture.

**Silvicultural system:** a planned program of treatments throughout the life of the stand to achieve stand structural objectives based on integrated resource management goals. A silvicultural system includes harvesting, regeneration and stand-tending methods or phases. It covers all activities for the entire length of a rotation or cutting cycle.

**The Forest Practices Code Silvicultural Systems Guidebook identifies six major categories of silvicultural system:** five even-aged systems and one uneven-aged system. Even-aged categories include the clearcut, patch-cut, coppice, seed tree and shelterwood systems. Uneven-aged systems are termed selection silvicultural systems.

**Silvicultural system variant:** further describes the functional attributes of a silvicultural system. A variant describes the general distribution of cut-and-leave areas or leave-trees on an area over time. The silvicultural system variant is the recommended minimum level of description of a silvicultural system for a silvicultural prescription or stand management prescription.

**Silviculture:** the art and science of controlling the establishment, growth, composition, health and quality of forests and woodlands. Silviculture entails the manipulation of forest and woodland vegetation in stands and on landscapes to meet the diverse needs and values of landowners and society on a sustainable basis.

**Silviculture prescription:** a site-specific operational plan that describes the forest management objectives for an area. It prescribes the method for harvesting the existing forest stand, and a series of silviculture treatments that will be carried out to establish a free growing stand in a manner that accommodates other resource values as identified.

**Silviculture regime:** a series of site-specific silviculture treatments planned over time.

**Silviculture survey:** a sampling procedure to determine silvicultural conditions such as planting survival, free-growing status, stocking, etc., leading to management decisions. See: Pre-Harvest Silviculture Assessment.

**Silviculture treatment:** any silviculture activity on forest stands to meet stand-specific objectives.

**Silviculture treatments:** activities that ensure the regeneration of young forests on harvested areas and enhance tree growth and improve wood quality in selected stands.

**Single tree selection:** see Selection silvicultural system.

**Site:** an area described or defined by its biotic, climatic, and soil conditions in relation to its capacity to produce vegetation; the smallest planning unit.

**Site class:** the measure of the relative productive capacity of a site for a particular crop or stand, generally based on tree height at a given age and expressed as either good, medium, poor or low.

**Site index:** an expression of the forest site quality of a stand, at a specified age, based either on the site height, or on the top height, which is a more objective measure.

**Site preparation:** the treatment of the soil and ground vegetation to prepare the soil surface as a favorable seedbed for either naturally or artificially disseminated seed or for planted seedlings.

**Site productivity:** the inherent capabilities of a site to produce or provide the commodities or values for which the area will be managed in accordance with Section 4 of the Ministry of Forests Act, that is, timber, forage, recreation, fisheries, wildlife, and water.

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

**Site sensitivity:** an assessment of the susceptibility of a site to soil-degrading processes, such as soil compaction, erosion, mass wasting, and forest floor displacement.

**Site-specific:** pertaining to a specific planning unit.

**Situation Report (SITREP):** an itemized list and/or written account, usually issued on a daily basis, detailing the status of various fire-related activities. A SITREP generally contains information on fire occurrence and area burned to date, fire suppression resources committed to going fires and resources on standby, number of fires in the various stages of control, fire danger class, fire weather forecast and forest closures (if any).

**Skid road:** a bladed or backhoe-constructed pathway where stumps are removed within the running surface as necessary. Skid roads are suitable only for tracked or rubber-tired skidders bringing trees or logs from the felling site to a landing.

**Skid trail:** a random pathway travelled by ground skidding equipment while moving trees or logs to a landing. A skid trail differs from a skid road in that stumps are cut very low and the ground surface is mainly untouched by the blades of earth moving machines.

**Skidder:** a wheeled or tracked vehicle used for sliding and dragging logs from the stump to a landing.

**Skidding:** the process of sliding and dragging logs from the stump to a landing, usually applied to ground-based as opposed to highlead operations.

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

**Slash:** the residue left on the ground as a result of forest and other vegetation being altered by forest practices or other land use activities.

**Slide:** a mass movement process in which slope failure occurs along one or more slip surfaces and in which the unit generally disintegrates into a jumbled mass en route to its depositional site. A debris flow or torrent flow may occur if enough water is present in the mass.

**Slope failure:** see Slide.

**Slope processes:** all processes and events by which the configuration of the slope is changed; especially processes by which rock, surficial materials and soil are transferred downslope under the dominating influence of gravity.

**Slope stability:** susceptibility of a slope to erosion and slides.

**Slump:** a mass movement process in which slope failure occurs on a usually curved slip surface and the unit moves downslope as an intact block, frequently rotating outward. Slumps appear as discrete block movements, often in place, whereas slides usually break up and travel downslope.

**Small Business Forest Enterprise Program (SBFEP):** this program permits the Ministry of Forests to sell Crown timber competitively to individuals and corporations who are registered in the SBFEP.

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

**Smoke management:** the scheduling and conducting of a prescribed burning program under predetermined burning prescriptions and firing techniques that will minimize the adverse effects of the resulting smoke production in smoke-sensitive areas.

**Smoke-sensitive area:** an area that has been identified in which smoke accumulations may cause a safety or public health hazard, or may unreasonably deny aesthetic enjoyment to the public.

**Snag:** a standing dead tree or part of a dead tree from which at least the smaller branches have fallen.

**Softwoods:** cone-bearing trees with needle or scale-like leaves such as Douglas-fir, western red cedar and ponderosa pine.

**Soil:** the naturally occurring, unconsolidated mineral or organic material at the surface of the earth that is capable of supporting plant growth. It extends from the surface to 15 cm below the depth at which

properties produced by soil-forming processes can be detected. The soil-forming processes are an interaction between climate, living organisms, and relief acting on soil and soil parent material. Unconsolidated material includes material cemented or compacted by soil-forming processes. Soil may have water covering its surface to a depth of 60 cm or less in the driest part of the year.

**Soil displacement hazard:** a soil displacement hazard as determined in accordance with procedures set out in the Ministry of Forests' publication "Hazard Assessment Keys for Evaluating Site Sensitivity to Soil Degrading Processes Guidebook," as amended from time to time.

**Soil disturbance:** disturbance caused by a forest practice on an area covered by a silviculture prescription or stand management prescription including areas occupied by excavated or bladed trails of a temporary nature, areas occupied by corduroyed trails, compacted areas, and areas of dispersed disturbance.

**Soil disturbance hazard:** an assessment of the susceptibility of a soil to adverse impacts on its productive capability due to soil compaction, soil puddling, surface erosion, mineral soil displacement, mass wasting, or forest floor displacement.

**Soil erosion:** the wearing away of the earth's surface by water, gravity, wind, and ice.

**Soil pit:** an excavation into the mineral soil of sufficient depth to allow assessment of variability in soil physical properties within a defined area of land.

**Soil productivity:** the capacity of a soil, in its normal environment, to support plant growth.

**Soil verification pit:** an excavation into the mineral soil of sufficient depth to allow assessment of the soil properties used to evaluate soil productivity and sensitivity to forest management-related disturbances. This generally requires an excavation 90 cm deep unless a watertable, compact soil, or bedrock is encountered closer to the soil surface, in which case the depth to one of these layers is the minimum depth of pit required.

**Spacing:** the removal of undesirable trees within a young stand to control stocking, to maintain or improve growth, to increase wood quality and value, or to achieve other resource management objectives.

**Special forest products:** as defined under Section 1 of the Forest Act and B.C. Regulation 355/87, these are: poles; posts; pilings; shakes; shingle bolts; Christmas trees; building logs; mining timbers, props, and caps; cribbing; firewood and fuel logs; hop poles; orchard props; car stakes; round stakes, sticks, and pickets; split stakes, pickets, palings, and lagging; and shake bolts, blocks, and blanks.

**Special sale area:** see Regulated unit.

**Species:** a singular or plural term for a population or series of populations of organisms that are capable of interbreeding freely with each other but not with members of other species. Includes a number of cases:

- endemic species: a species originating in, or belonging to, a particular region. Both "endemic" and "indigenous" are preferred over "native."
- exotic species: a species introduced accidentally or intentionally to a region beyond its natural range. "Exotic" is preferred over "alien," "foreign" and "non-native."
- subspecies: a subdivision of a species. A population or series of populations occupying a discrete range and differing genetically from other subspecies of the same species.

**Species at risk:**

- a) any wildlife species that, in the opinion of the Deputy Minister of Environment, Lands and Parks, or a person authorized by that deputy minister, is threatened, endangered, sensitive or vulnerable,

- b) any threatened and endangered plants or plant communities identified by the Deputy Minister of Environment, Lands and Parks, or any person authorized by that deputy minister, as requiring protection and
- c) regionally important wildlife as determined by the Deputy Minister of Environment, Lands and Parks or a person authorized by that deputy minister.

**Species composition:** the percentage of each recognized tree species comprising the forest type based upon the gross volume, the relative number of stems per hectare or basal area.

**Species conversion:** a change from one tree species to another.

**Spot burning:** a modified form of broadcast burning in which only the larger accumulations of slash are fired and the fire is confined to these spots.

**Spring:** a flow of ground water emerging naturally onto the earth's surface and used as a domestic water source within a community watershed. The watershed area of a spring is defined as the total recharge area of the spring.

**Stabilized road width:** the width of the travelled portion of the road that has been surfaced with material of sufficient strength and quantity to support the intended traffic.

**Stagnant:** of stands whose growth and development have all but ceased due to poor site and/or excessive stocking.

**Stand:** a community of trees sufficiently uniform in species composition, age, arrangement, and condition to be distinguishable as a group from the forest or other growth on the adjoining area, and thus forming a silviculture or management entity.

**Stand composition:** the proportion of each tree species in a stand expressed as a percentage of either the total number, basal area or volume of all tree species in the stand.

**Stand conversion:** changing the species composition of a stand to more desirable tree species which are less susceptible to damage or mortality from certain insects or diseases.

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

**Stand development:** the part of stand dynamics concerned with changes in stand structure over time.

**Stand dynamics:** the study of changes in forest stand structure over time, including stand behavior during and after disturbances.

**Stand level:** the level of forest management at which a relatively homogeneous land unit can be managed under a single prescription, or set of treatments, to meet well-defined objectives.

**Stand management prescription:** A site-specific operational plan describing the nature and extend of silviculture activities planned for a free growing stand of trees to facilitate the achievement of specified or identified social, economic and environmental objectives.

**Stand model:** a computer model that forecasts the development of a forest stand, usually in terms of stand attributes such as mean diameter or height.

**Stand strategy:** a documented plan of stand treatments to achieve management objectives during the life of a particular stand.

**Stand structure:** the distribution of trees in a stand, which can be described by species, vertical or horizontal spatial patterns, size of trees or tree parts, age, or a combination of these.

**Stand table:** a summary table showing the number of trees per unit area by species and diameter class, for a stand or type. The data may also be presented in the form of a frequency distribution of diameter classes.

**Stand tending:** a variety of forest management treatments, including spacing, fertilization, pruning, and commercial thinning, carried out at different stages during a stand's development.

**Stand types:** see Stand, Stand structure.

**Standard:** the required level or measure of practice established by authority of the Forest Practices Code and referenced in legislation.

**Standing:** status held by a person or group which allows the person or group to challenge or appeal a particular decision.

**Statutory framework:** where forest practices are primarily regulated by legislation.

**Stewardship:** caring for land and associated resources and passing healthy ecosystems to future generations.

**Stocking:** a measure of the area occupied by trees, usually measured in terms of well-spaced trees per hectare, or basal area per hectare, relative to an optimum or desired level.

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

**Stocking plan:** a plan that provides objectives and strategies for land allocation and/or resource management, including regional plans, subregional plans, and local resource plans.

**Stocking standard:** the required range of healthy, well-spaced, acceptable trees.

**Stocking survey:** the determination of the stocking of an area of both well-spaced and total trees; also used to generate an inventory label.

**Strategic land-use planning:** Planning at the regional, sub-regional and, in some cases, at the local level which results in land allocation and/or resource management direction. Strategic land-use planning at the regional and sub-regional level involves the preparation of resource management zones, objectives and strategies.

**Strategy:** a broad non-specific statement of an approach to accomplishing desired goals and objectives.

**Stream:** a watercourse, having an alluvial sediment bed, formed when water flows on a perennial or intermittent basis between continuous definable banks.

**Stream bank:** the rising ground bordering a stream channel.

**Stream channel:** the streambed and banks formed by fluvial processes, including deposited organic debris.

**Stream class:** the British Columbia Coastal Fisheries/Forestry Guidelines defines three stream classes:



- Stream Class A includes streams or portions of streams that are frequented by anadromous salmonids and/or resident sport fish or regionally significant fish species; or streams identified for fishery enhancement in an approved fishery management plan; stream gradient is usually less than 12 percent.
- Stream Class B includes streams or portions of streams populated by resident fish not currently designated as sport fish or regionally significant fish; stream gradient is usually 8-20 percent.
- Stream Class C includes streams or portions of streams not frequented by fish; stream gradient is usually greater than 20 percent.

**Stream culvert:** a culvert used to carry stream flow in an ephemeral or perennial stream channel from one side of the road to the other.

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

**Streambed:** the bottom of the stream below the usual water surface.

**Streamside Management Zone (SMZ):** the land, together with the vegetation that supports it, immediately in contact with the stream and sufficiently close to have a major influence on the total ecological character and functional processes of the stream. (see also Riparian Management Area)

**Stumpage:** is the fee that individuals and firms are required to pay to the government when they harvest Crown timber in British Columbia. Stumpage is determined through a complex appraisal of each stand or area of trees that will be harvested for a given timber mark. A stumpage rate (\$ per m<sup>3</sup>) is determined and applied to the volume of timber that is cut (m<sup>3</sup>). Invoices are then sent to individuals or firms.

**Subgrade:** the material movement necessary to construct the roadway, excluding surfacing.

**Substructure:** the part of a bridge that supports the superstructure and carries all the applied lateral and vertical loads; includes caps, sills, piles, and posts, each comprising elements known as abutments and piers.

**Subsurface drainage:** water flow through permeable soil or rock beneath the surface of the land.

**Sub-unit plan:** the fourth level of planning in the Ministry of Forests hierarchical planning system. The aggregation of a number of courses of action in map and written form designed to achieve sub-unit objectives. Normally centred on watersheds.

**Succession:** the gradual supplanting of one community of plants by another, the sequence of communities being termed a sere and each stage seral.

**Suitability mapping:** a habitat interpretation that describes the current potential of a habitat to support a species. Habitat potential is reflected by the present habitat condition or successional stage.

**Superstructure:** the part of a bridge found above or supported by the caps or sills, including the deck, girders, stringers, and curbs.

**Supply block:** an area of Crown land that is relatively homogeneous with respect to forest characteristics, access development and management concerns. Supply blocks are the next smaller timber management unit within a Timber Supply Area.

**Surface soil erosion:** means for an area where a forest practice has been carried out, the movement of soil particles from the area by wind, gravity or water at a rate that is greater than that which would have occurred had the forest practice not been carried out.

**Surplus forest:** a forest in which existing stands can provide more harvest volume than is needed to maintain the harvest at the level of long run sustained yield until the stands created when the existing stands are cut become available for harvest. See also deficit forest.

**Sustainability:** A state or process that can be maintained indefinitely. The principles of sustainability integrate three closely interlined elements—the environment, the economy and the social system—into a system that can be maintained in a healthy state indefinitely.

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

**Sustainable forest management:** management regimes applied to forest land which maintain the productive and renewal capacities as well as the genetic, species and ecological diversity of forest ecosystems.

**Sustained yield:** a method of forest management that calls for an approximate balance between net growth and amount harvested.

**Switchback:** a horizontal road curve used for surmounting the grade of a step hill, usually with a small radius (15-10 m) and curving 180 degrees.

**System road:** a permanent road required for long-term management of the forest.