



# Silviculture Facts

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- In British Columbia, silviculture is based on sound ecological principles. A biogeoclimatic classification system, derived from the specific climate, soils, and vegetation of an area, is used by foresters to determine the best way to manage the various forest ecosystems found in the province.
- The goal of silviculture is to achieve specific management objectives on forested areas by enhancing the quantity, quality, and value of timber and other forest resources, such as fish, wildlife, water, and recreational opportunities, through the application of appropriate silviculture treatments.
- Silviculture activities are divided into two categories: basic and incremental. Basic silviculture is a legal requirement and includes activities such as surveying, site preparation, planting, brushing, and spacing (in excessively dense young stands) to establish healthy new forests after harvesting. Incremental silviculture involves pruning, fertilizing, and spacing activities to improve the overall quality and value of established stands.
- An important component of silviculture is maintaining forest health by preventing, identifying, and controlling damage caused by insects, disease, and other organisms.
- Provincial expenditures in silviculture for 1992/93 will total \$269 million.
- All areas harvested on Crown (public) land in British Columbia must be reforested — this is the law. Those who harvest the timber are responsible for the cost of reforestation. Approximately one-half of the area harvested is planted and the other half is actively managed for natural regeneration.
- Prior to any logging taking place, a pre-harvest silviculture prescription (a plan for how an area will be harvested, reforested, and tended to the free-growing stage) must be submitted to the Forest Service for approval. Input from the public is sought and taken into account before approval is granted.
- The amount of area reforested annually through planting and managing for natural regeneration is currently greater than the area being harvested. This is because, in addition to current reforestation, we are also planting a backlog of areas that were not adequately reforested in the past. These areas are referred to as not satisfactorily restocked (NSR).
- The Forest Service has set a goal of eliminating the backlog NSR, on treatable sites, by the year 2000.





## SILVICULTURE

- In 1990/91, over 245 million seedlings were planted on approximately 204 000 hectares, a record year for tree planting in British Columbia. Planting levels are expected to decline slowly over the next ten years, as the backlog of NSR is eliminated.
- Approximately 220 million seedlings will be planted in British Columbia during 1992/93.
- The Forest Service operates three forest nurseries, nine seed orchards, and the provincial Seed Centre in support of the reforestation program. In addition, there are 18 commercial nurseries under contract for 1992/93 to provide seedlings for planting.
- Nineteen different types of trees are planted throughout the province in areas where they are ecologically suited:

western redcedar  
coastal Douglas-fir  
mountain hemlock  
interior Douglas-fir  
Engelmann spruce  
lodgepole pine  
western white pine

western hemlock  
white spruce  
cottonwood  
western larch  
Sitka spruce  
hybrid poplar

subalpine fir  
amabilis fir  
ponderosa pine  
grand fir  
yellow-cedar  
birch

- With improvements in seedling quality and planting techniques, the current survival rate of second-year seedlings is approximately 86%. This is a significant increase over a rate of less than 60% ten years ago.
- Approximately 90% of the annual provincial harvest is by clear-cutting; the remaining 10% is done using alternative silvicultural systems such as selection, seed-tree, or shelterwood. These systems involve partial cutting, in which selected trees are logged and others are left behind. At the present time, alternative silvicultural systems are used primarily in the southern interior of the province where the climate, tree species, and management objectives allow for their use. The Forest Service is actively investigating the potential for expanding the use of alternative silvicultural systems to some of the other forest types found in British Columbia.
- Ongoing research and operational trials are also investigating ways of modifying clear-cutting in order to minimize environmental and visual impacts. One method of modified clear-cutting is where snags, green trees, and lower grade logs are left behind after harvesting to provide wildlife habitat, biological diversity, and a long-term source of nutrients for the soil. Other forms of modified clear-cutting include smaller cut blocks, leaving strips of trees to provide wildlife corridors, and shaping cut blocks to blend into the natural features of the landscape.
- To minimize erosion problems at harvest sites, regional standards and guidelines have been developed which address the specific requirements of local soils. Sites are monitored and audited to ensure that guidelines are followed.

