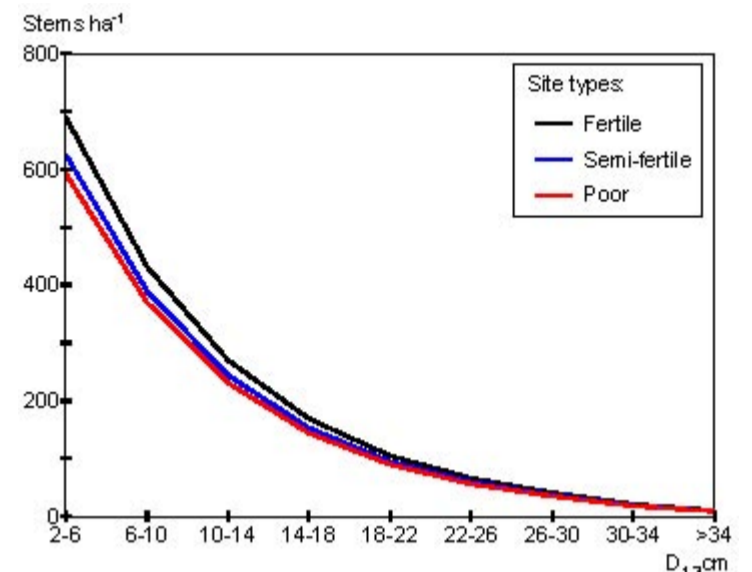


PRO SILVA-ORIENTED SILVICULTURE

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The natural development of forest primarily results in diverse mixed forests. There is an abundance of small trees, and these are generally the youngest as well. The number of trees diminishes into bigger diameter classes. Natural stand structure and tree succession have been used when developing models for Pro Silva-oriented Silviculture. The principal idea is to raise mixed, uneven-sized stands and to ensure a constant tree cover on forest land.

In Pro Silva-oriented Silviculture regeneration and stand growth take place concurrently. The felled trees are primarily "mature" individuals ceased to grow. Trees that are of poor quality and/or sick and defective are removed, but not all of them, and thickets are thinned. Understorey trees recover soon after being liberated. Cutting interval and intensity can be chosen flexibly according to the situation. Deciduous species in conifer-dominated stands maintain the site favourable for new growth to establish itself in. Thus regeneration becomes a continuous process.



Target stem number distribution on different site types after cutting in South Finland.



Typical features for natural forests are biodiversity and uneven-sizedness of trees. One of the basic ideas in Pro Silva-oriented Silviculture is to maintain the natural structure of stands.



A Norway spruce-dominated forest stand after cutting. Understorey trees recover well.

In forest management attention should be directed at ensuring that woodland environment retains its viability and at finding remedies to improve its state of health, which is impaired by environmental stress factors, e.g. air pollution and climate change. Biodiversity is the main characteristic of forests in countering various damaging agents and extremes of local climate.

Especially multiple-use forestry and ecologically sensitive areas require sites managed under continuous forest cover. Uneven-sized mixed stands ensure maximum multiple-use capacity and flexibility. Diverse forests are also more productive and more profitable with lower costs than forests with one-sided structure and heavy management. We can also diminish conflicts between forestry and nature conservations by applying Pro Silva-oriented Silviculture.

Reference:

Lähde, E., Laiho, O. and Norokorpi, Y. 1999. Diversity-oriented silviculture in the Boreal Zone of Europe. *Forest Ecology and Management* 118: 223–243.