



Branching out

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Assessing partial harvests: fifty years later

Forests in Quebec's sugar maple–yellow birch bioclimatic domain have been exploited for over 200 years. After harvesting, these stands are often plagued by problems such as decreased conifer content, decreased stem quality and competition from undesirable species.

To better understand the dynamics of these complex ecosystems, Canadian Forest Service researchers assessed the impacts of experimental partial harvests¹ carried out between 1950 and 1956 in the Lac Édouard Experimental Forest (Mauricie region)².



Lac Édouard Experimental Forest, 1958 (Hatcher).

Fifty years later (2001), red spruce basal area had increased while balsam fir basal area had decreased in two of the three forest types studied. Experimental partial harvests also prevented the invasion of cutovers by undesirable species such as mountain maple, which can cause significant production losses. Lastly, maintaining the existing proportion of red spruce seems to require reduced harvesting of the species.

Partial harvests, which are better adapted to mixed stands, therefore provide an alternative to cutting with protection of regeneration and soils (CPRS).

Given the significant costs of partial harvests, the establishment and ongoing monitoring of permanent sample plots like those in the Lac Édouard Experimental Forest are crucial. Stands' long-term response to these treatments will allow silvicultural strategies based on ecosystem-based management to be developed.

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The Lac Édouard Experimental Forest was established in 1918 by the federal Conservation Commission in cooperation with Laurentide Pulp and Paper. Originally roughly 16 km² in size, it is now situated mainly within the confines of La Mauricie National Park and is one of Canada's oldest experimental forests.



¹ In cooperation with the ministère des Ressources naturelles et de la Faune du Québec, Université Laval, Parks Canada (La Mauricie National Park) and Abitibi-Consolidated.
² At a cutting intensity of 15–45% of total basal area.