

LONG-TERM HARDWOOD RESEARCH WORK IN QUÉBEC: THE EXAMPLE OF DUCHESNAY FOREST

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Duchesnay was officially created in 1933 and now covers a 8900-ha forested area. Diameter-limit cuttings were the common method used in mixedwood and hardwood stands. However, some areas were clearcut in the 1930s for charcoal production, therefore providing opportunities for even-aged management studies. The predominant cover is sugar maple-yellow birch-American beech.

The first studies date back to the mid 1940s and dealt with yellow birch regeneration and forest pathology. Major efforts in research coincide with Lise Robitaille joining the newly created provincial research service. As a forester, she worked on the second management plan of Duchesnay and initiated several basic studies in northern hardwood silviculture. A first group of studies is about diameter-limit cutting (1972-1974), precommercial thinning in a 30-yr-old maple stand, and management for sap and sugar production. Also, a high-graded stand was clearcut in 1972 providing opportunities for studying new methods. On half of the clearcut, site preparation, direct seeding and plantation were applied in May 1974 to determine which species performed the best in rehabilitating the area. Several hardwood and softwood species were used in the test, and the other half was left to develop naturally.

A second group of studies were started in the early 1980s, focusing on new regeneration methods and intensive management for veneer yellow birch production. For a while, strip-cutting was applied and some of the strips enriched with a low density of eastern white pine, Norway spruce and red spruce. In 1982, a combination of thinning, fertilization and pruning treatments were applied in the 10-yr-old hardwood stand. At the time, it was hypothesized that an earlier intervention would bring more interesting growth results.

While these studies were being followed-up, new situations developed, like some hardwood decline in the sugarbush study. Reaction against the use of clearcutting has prompted the development of a new uneven-aged management approach. A forest ecologist started new silvicultural studies at another research forest known as Mousseau Experimental Forest. Papers about these studies have been published mostly in French. In the early 1990s, new researchers joined the organization and took over the remeasurement process. Over those years, Duchesnay has been used by other agencies (Laval University; CFS Laurentian) as well. Tours on hardwood silviculture are being organized and ecotourism continues to develop with Sépaq.