

Parkside Gully project update
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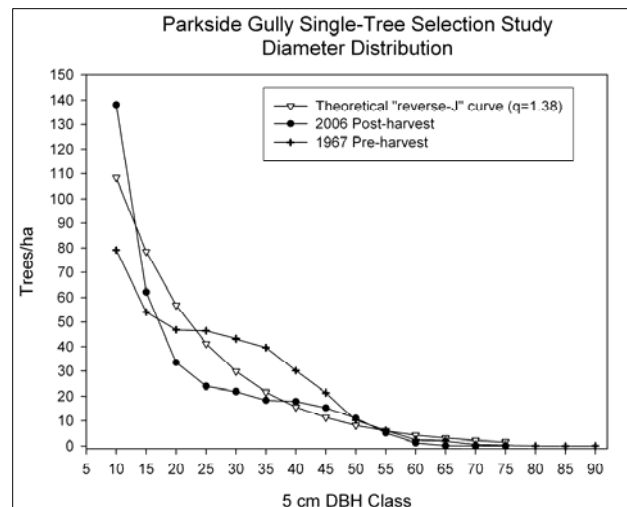
The Parkside Gully single-tree selection and product recovery study is a long term tolerant hardwood silviculture and management study that was established in 1967 at the Swan Lake Forest Research Reserve in Algonquin Provincial Park. The study site is productive and supports a very good quality mature tolerant hardwood stand. Three previous single-tree selection harvests have occurred at 12-13 year intervals, the aim of which were to improve the average tree quality by concentrating on removing poor quality trees in each harvest, and to regulate the basal area by tree size class using the best available tree marking guidelines.

The current project is in its second of three years of funding by the Living Legacy Research Program, the Enhanced Forest Productivity Program, the Ontario Ministry of Natural Resources, and Tembec. Additional project partners are the Algonquin Forestry Authority, Westwind Forest Stewardship, and the Forestry Research Partnership.

Year one milestones include project planning, pre-harvest plot re-establishment, baseline data collection (species composition, stand structure, tree growth, tree quality, understory vegetation, and coarse downed wood and snags). Year two milestones that have been completed include prescription development, tree marking, harvest with careful logging in December 2005, and product recovery data collection by the Algonquin Forestry Authority and the staff at the Huntsville Tembec sawmill.

The project team is currently focused on data processing and data analysis. Significant time is being spent cleaning data sets from multiple measurement years, including data sets with different measurement standards (e.g., change from English to metric units, change from dot tallies to individual-tree measurements).

Several early results are available now. The first is the stand structure we have achieved after the fourth harvest (Fig. 1). The initial stand structure in 1967 was dominated by large diameter sugar maple and beech. With successive harvests, we have reduced the volume of large and medium sawlogs to desirable levels, with a q-value of approximately 1.4. The stand is now slightly understocked in poles and small sawlogs, and slightly overstocked in medium and large sawlogs. However, considerable effort has been placed on improving the quality of trees in all size classes. Stand level basal area, grouped into the four tree size classes used in the provincial tree marking guide, follows the same trends as



the diameter distribution and shows the 2006 post harvest stand basal area slightly below the provincial target of 20 m²/ha (Table 1).

Table 1. Parkside Gully basal area (m²/ha) by tree size class. Years superscripted *a* are the year preceding harvest. Years superscripted *b* are the year immediately after harvest.

Year	Poles 10-24 cm dbh class	Small sawlogs 26-36 cm dbh class	Medium sawlogs 38-48 dm dbh class	Large sawlogs ≥ 50 cm dbh class	Total BA
1967 ^a	3.7	8.0	10.1	5.8	27.7
1968 ^b	3.0	6.0	6.5	1.1	16.5
1981 ^a	3.0	5.8	9.2	3.4	21.3
1982 ^b	2.7	4.7	6.6	2.3	16.4
1992 ^a	3.6	5.2	8.2	6.1	23.1
1993 ^b	3.1	4.2	6.8	4.5	18.5
2005 ^a	4.4	4.6	7.8	6.8	23.5
2006 ^b	4.0	4.0	6.2	4.2	18.4
Post-harvest Target	6	6	5	3	20.0

Another early result we have that validates our long-term focus on quality improvement in this study stand is seen in the product recovery data. From the 10 ha harvested stand, 354.1 m³ of logs were scaled at the mill. This total volume is comprised of 331.3 m³ (94%) of sugar maple and 22.8 m³ (6%) of beech. Of the total sugar maple volume harvested, 273.7 m³ (83%) was sawlogs, and 57.6 m³ (17%) was fuelwood. Of the total beech volume, 14.6 m³ (64%) was fuelwood, with only 8.2 m³ (36%) as sawlogs.

Data analysis is continuing, with complete results for the stand structure and product recovery expected in Spring 2007.