

**Mother Tree Survey in the Central Portion of the Catchacoma Forest,
Trent Lakes, Ontario
- Study Update -**

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Figure 2. Image Showing Transects in the Central Portion, Catchacoma Forest

Very little is known about the portions of the Catchacoma Forest that are east of Pencil Creek. Thus, the purpose of this survey work that is focussed on the central section (see Figs. 1 & 2) is twofold: 1) determine the density of mother trees (trees that meet the minimum diameter for old-growth forest), and 2) survey for the presence and location of cut stumps.

Mother trees and cut stumps were assessed in 6 x 50 m plots (32 total) located 50 meters apart along each transect, which were placed roughly 120 m apart amounting to a 2% sample of the Catchacoma Forest central region. Figures 1 and 2 show the location of the transects (horizontal black lines). Data have been collected for transects 1-5, and the remaining transects will be numbered when the data are collected there. Cut stumps were found only near the cottages in the south along the lakeshore.

Figure 1. Map of Central Transects and Trails, Catchacoma Forest

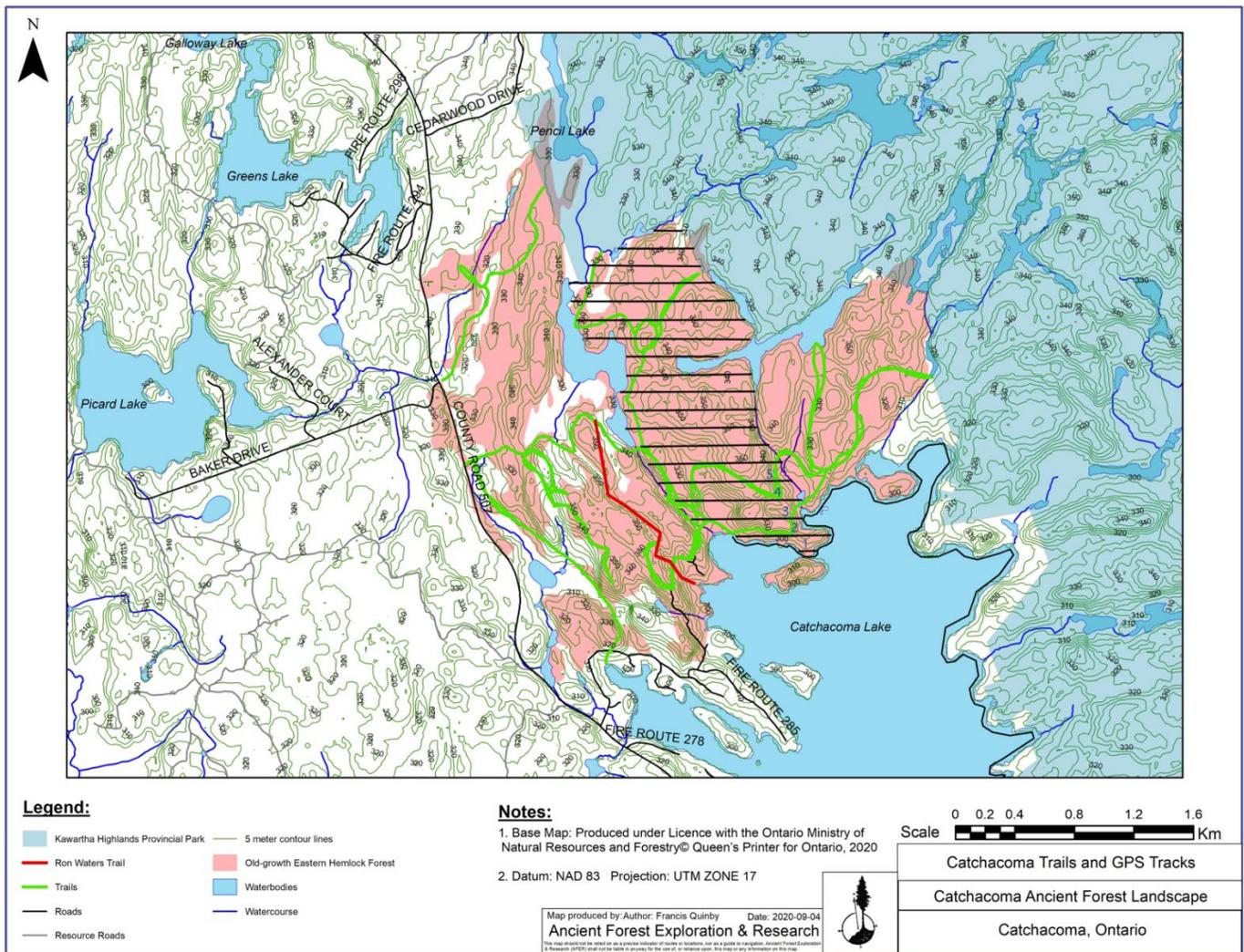


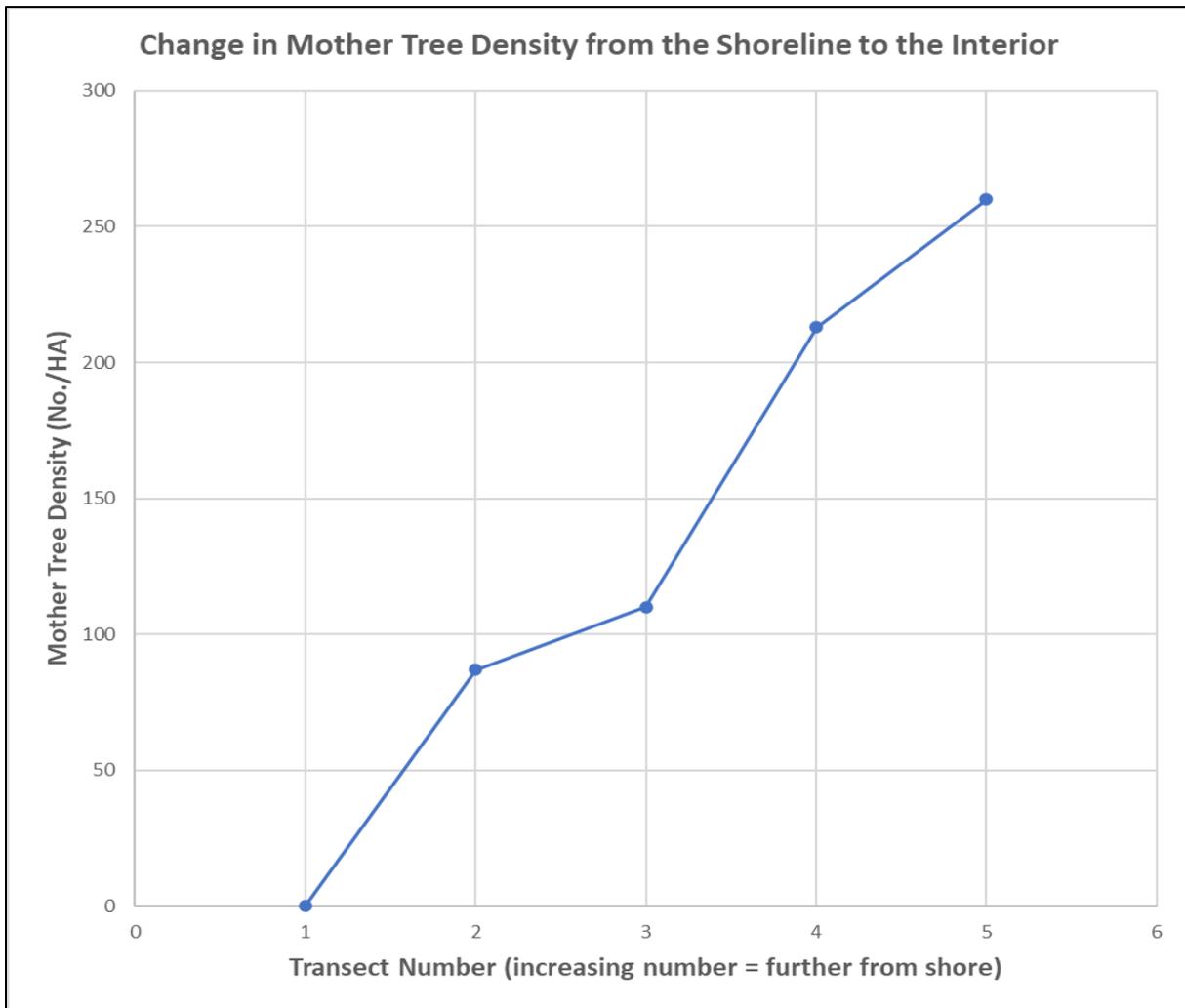
Table 1 below shows the mother tree species found in the plots (10 species) sampled along each transect including mother tree density per plot and per HA. Somewhat surprising is the high mother tree species diversity in the area, particularly along transect 4 (10 species in 8 plots). It is also interesting that mother tree density is lowest in transects near the lake (0/HA) and increases steadily in transects with increasing distance from the lake (max. 260/HA; Fig. 3). The maximum density of 260/HA is 100/HA higher than the minimum value for the highest level of old-growth forest density (pine-dominated) in Maine (Manomet Center 2009; see Appendix A, index score 10). Mean mother tree density for the central section was 160/HA, which is the highest category (#10) in the Manomet Late Successional Index (see Appendix A).

**Table 1. Mother Trees in Transects 1 – 5, Central Portion, Catchacoma Forest
(MT = mother tree; LS = late successional; index of 10 = >160 MT/HA)**

Transect #	Species	No. MTs	No. Plots	Mean MT/Plot	Mean MT/HA
1	none	0	2	0	0
2	Eastern White Pine Eastern Hemlock Red Maple Red Oak Sugar Maple White Oak TOTAL	11 3 1 1 1 1 18	7	2.6	87
3	Eastern White Pine Eastern Hemlock Sugar Maple TOTAL	17 5 1 23	7	3.3	110
4	Eastern White Pine Eastern Hemlock Large Tooth Aspen White Cedar White Oak Red Pine Yellow Birch Red Maple Red Oak Sugar Maple TOTAL	18 9 7 5 4 3 2 1 1 1 51	8	6.4	213
5	Eastern Hemlock Eastern White Pine Red Oak Red Maple Sugar Maple Red Pine Yellow Birch TOTAL	28 22 5 3 2 1 1 62	8	7.8	260

* Manomet Center for Conservation Sciences. 2009. **LS Index (Revised): Northern Pine Forest**. Forest Mosaic Science Notes, Plymouth, Massachusetts, USA. [LS = late successional]

Figure 3.



Appendix A – Density Categories for Old-growth Forest Trees and Snags (from Manomet 2009)

LS Index Score	Number of large ($\geq 16''$ DBH) trees (alive or dead)			
	Percentile of OG stands	/ plot	/ acre	/ ha
0	0	0	0	0
1	0	1	1-3	1-9
2	0	2	4-5	10-14
3	0	3	6-7	15-19
4	0	4	8-9	20-24
5	0	5-6	10-13	25-34
6	0	7	14-15	35-39
7	10	8-16	16-33	40-84
8	40	17-25	34-51	85-129
9	80	26-32	52-63	130-160
10	100	>32	>63	>160

Example: Suppose you tallied up 11 trees $\geq 16''$ DBH along the 200 m (10 chain) transect. The corresponding LS Index score for 11 trees is '7' (table left).

Threshold between economic mature and LS stages

Threshold above which a stand is old-growth or is statistically similar to old-growth.

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