

# Field Assessment of Old-growth Characteristics in the Catchacoma Forest, Northern Peterborough County, Ontario

## *Preliminary Results Bulletin #9, August 2020*

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*Catchacoma Old-growth Forest (K. Cowcill, July 2020)*

## Introduction

In March of 2019, Ancient Forest Exploration & Research began work on a one-year project to assess and describe old-growth forests (OGF) in Peterborough County funded by the Ontario Trillium Foundation. One of the most significant findings from this project was the identification of the Catchacoma Forest as Canada's largest known old-growth eastern hemlock forest (Figure 1; Quinby 2019) with an estimated size of 662 ha (1,655 ac). Despite this finding of national significance, and despite confirmation of the common presence of old-growth features (old trees, snags, logs, low stump density; Dewar 2020), the sustainable forestry licence holder (Bancroft Minden Forest Company) ignored these standard conservation values and requests by scientists and conservationists to put a moratorium on logging this area.

Instead of delaying logging in order to further investigate the natural heritage value of this forest, a significant portion (~25 ha; ~62 ac) of this unique and valuable forested landscape was logged during fall and winter of 2019-20. An adjacent area of similar size is scheduled for logging during the fall and winter of 2020-21.

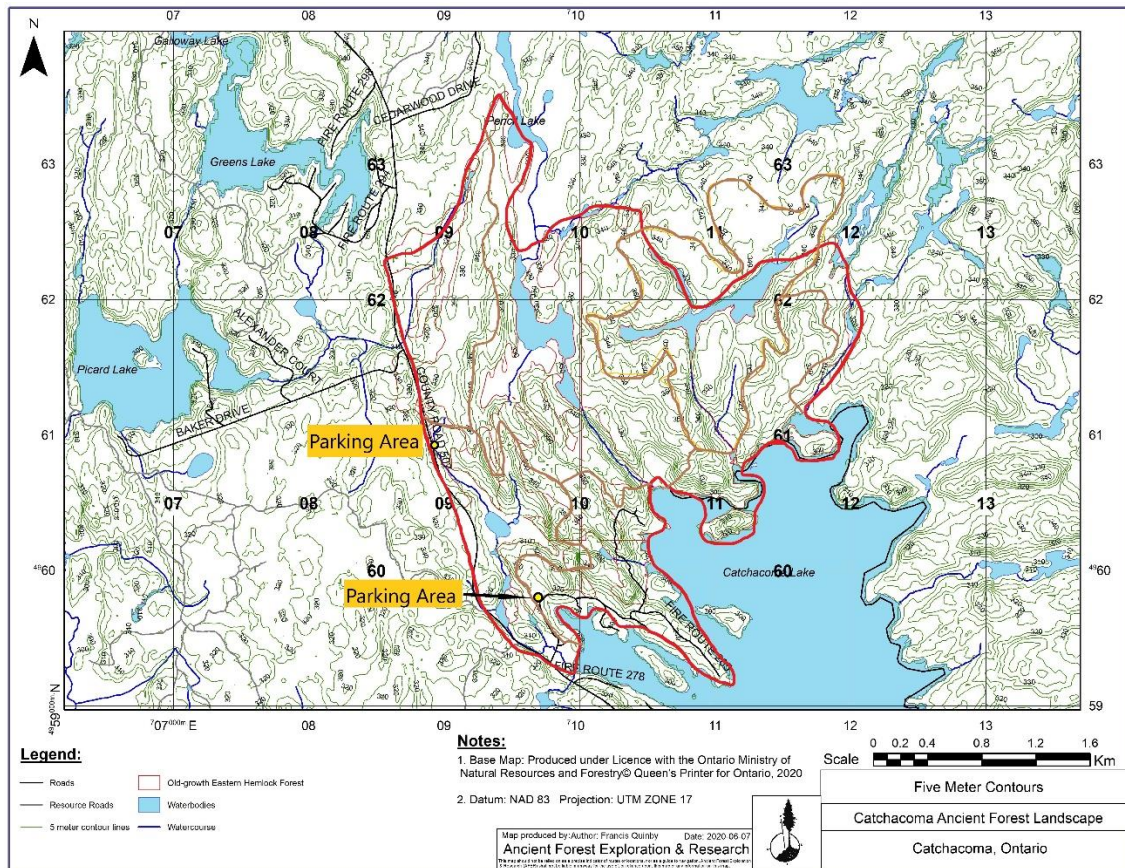
The objective of this study was to collect field samples in lesser-known areas of the Catchacoma Forest primarily in order to assess for OGF features. The results of this work will contribute to a better understanding of the natural history, ecology and conservation of this exceptional forested landscape that also includes numerous wetlands that have not yet been evaluated for their conservation significance at the local, regional, and provincial levels.

## Results

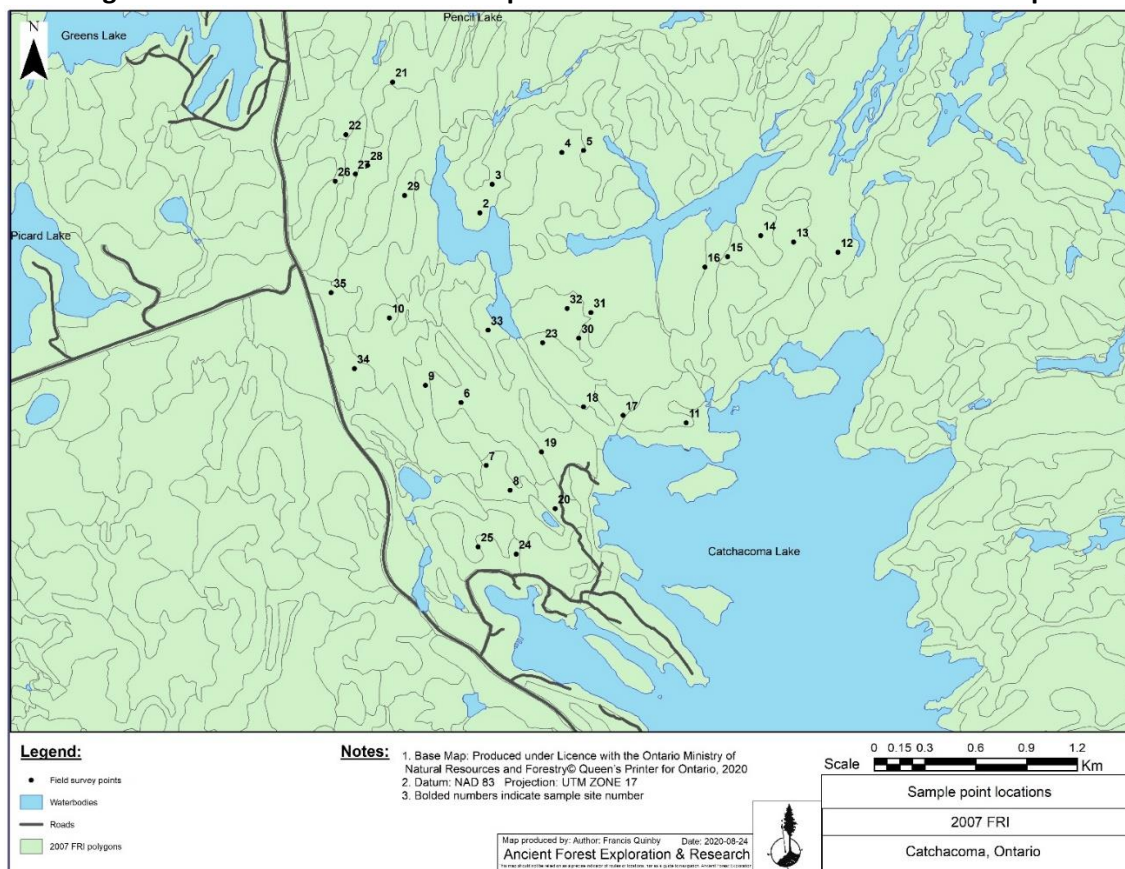
The 34 sample plots were well distributed throughout the 662 ha study area (Figure 2). Most plots were circular with a 20 m radius occupying 1,256 m<sup>2</sup> (29 plots). However, in very dense vegetation conditions, the plot radius was reduced due to difficulty making observations from the plot centre beyond 10 m (5 plots). Primary results from this study are shown in Table 1. The main findings include the following.

- No evidence of logging was observed in 53% of the plots.
- For the other 47% of the samples, evidence of logging was observed, however, our data from last summer (Dewar 2020) shows that stump density in the Catchacoma Forest is significantly lower than that of documented OGFs south of the Canadian Shield (see Larsen et al. 1999).
- Approximately half of the sample plots were located in "early OGF stage" forests based on Ontario provincial OGF criteria (tree age only; 140+ yrs.).
- The other half of the plots were in the "late OGF stage" based on field assessment of dead wood (snags and logs) as well as tree age.
- "Super-canopy" trees (five species), those that extend above the main canopy, were present in half of the plots.
- The forest is regenerating well, and hemlock regeneration dominated in three-quarters of the plots.
- Evidence of woodpecker activity was observed in almost half of the plots.

**Figure 1. Location and Extent of the Catchacoma Old-growth Forest Landscape**  
(red line = outer boundary of OGF landscape; brown lines = watershed boundaries)



**Figure 2. Location of the Field Sample Plots in the Catchacoma Forest Landscape**



**Table 1. Primary Findings from the Catchacoma Forest Based on Data from 34 Field Plots**

| CATEGORY                | NOTES   |
|-------------------------|---|
| <b>Site and Habitat</b> | 32 forest stands defined by provincial FRI mapping making up 506 ha of the 662 ha of the Catchacoma OGF were sampled with 34 plots in the field   |
|                         | 20 plots were dominated by He; 5 plots were co-dominated by He - other co-dominant spp: Pw, Or, Mh, Mr; 9 plots dominated by six other tree spp. including Aw, Ab, Pr, Po, Mh, Or   |
|                         | topographic positions sampled: 4 flat plots; 3 hilltops; 1 lower slope; 14 mid-slopes; 2 plateaus; 1 saddle; 6 upper slopes; 3 valleys  |
|                         | all slope aspects sampled; % slope varied from 0 to 70%   |
|                         | 10 plots close (within 100 m) to a wetland; 1 plot near an oak savanna  |
|                         | wildlife: woodpeckers, black bear, moose, goshawk, barred owl   |
|                         |   |
| <b>Live Vegetation</b>  | 32 of 34 plots (94%) had trees that met the minimum dbh (diameter) for OGF; the two plots that didn't had been logged   |
|                         | tree cores were taken and aged in 24 of 34 plots (71%); 21 of these 24 plots (88%) had trees that met the minimum age for OGF*; of the 3 that didn't, two had been logged and one was at least partially within a hydro line corridor |
|                         | 50% of plots (17/34) contained "super-canopy" (taller than the surrounding canopy) trees including He, Pw, Or, Mh and Ms  |
|                         | 31 of 34 plots (89%) had He regeneration; only a few of these plots had less than 5 %cover of He and were dominated by maple and oak instead  |
|                         | The understory (contains tree regeneration) in 25 of 34 plots (76%) was dominated by He; in the other 9 plots, He regeneration ranged from 5 %cover to 40 %cover.   |
|                         |   |
| <b>Dead Wood</b>        | medium to high log volume was found in 23 of 34 plots (68%)   |
|                         | medium to high snag volume was found in 5 of 34 plots (15%); snags were present in 24 of 34 plots (71%)   |
|                         | 15 of 34 plots (44%) had evidence of snag use by woodpeckers  |
|                         |   |
| <b>Disturbance</b>      | 16 of 34 (47%) plots had logging within the plot or within 100 m of the plot  |
|                         | 8 plots (24%) had evidence of atv trail use within the plot or within 100 m of the plot   |
|                         | 3 plots had evidence of hunting   |
|                         | 2 plots had evidence of historical mining activity; several others had possible mining activity but further investigation was required to verify  |
|                         | 2 plots were at least partially within a hydro corridor   |
|                         | 1 plot had evidence of trapping   |
|                         | 1 plot was at least partially within a cottage lot  |

NOTES: Ab - black ash; Aw - white ash; He - eastern hemlock; Mh - sugar maple; Ms - red maple; Or - red oak; Po - poplar; Pr - red pine; Pw - eastern white pine

## Acknowledgements

Funding for this work was provided by The Peterborough Foundation and the Community Foundation of Greater Peterborough; we extend our sincere thanks to these supporters. We also thank Jeff Varah for donating lodging on Catchacoma Lake and we appreciate the facilitation of this donation by Peter Currier and Linda Briden. Thanks also to the Catchacoma Forest Stewardship Committee for their support of this work in principle.

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