

**AFFIDAVIT OF PETER A. QUINBY IN THE ONTARIO COURT CASE:
ALGONQUIN WILDLANDS LEAGUE AND FRIENDS OF TEMAGAMI VS.
THE ONTARIO MINISTRY OF NATURAL RESOURCES**

P. A. Quinby

As a forest conservation scientist, I testified on behalf of the Algonquin Wildlands League and Friends of Temagami (represented by the Sierra Legal Defense Fund) in their case against the Minister of Natural Resources (Quinby 1996). In this case “the Wildlands League and the Friends of Temagami alleged that the Minister of Natural Resources approved logging in Temagami, Elk lake and the Upper Spanish forests without complying with the Crown Forest Sustainability Act (CFSA), or with the conditions imposed by the Environmental Assessment Board in its decision concerning timber management in Ontario” (Algonquin Wildlands League 1998). In their 1998 decision, “the Court agreed and declared that the logging plans were illegal...the Court gave the government one year to amend the logging plans so that they come into compliance with the law” (Algonquin Wildlands League 1998). Stewart Elgie of the Sierra Legal Defense Fund called the Court decision “the biggest environmental victory in Ontario, probably ever” (van Rijn 1998). This report presents my testimony.

I, Peter A. Quinby, Ph.D., of the City of Johnstown, in the State of Pennsylvania, in the United States of America, professor at the University of Pittsburgh, MAKE OATH AND SAY (Sworn September 18, 1996):

1. I am Assistant Professor in the Department of Biology at the University of Pittsburgh, specializing in forest ecology. I have held that position since 1994. Prior to that I was Assistant Professor at Wilfrid Laurier University for three years between 1987 and 1992. I have also served as Instructor at Trent University, University of Toronto, and York University on subjects ranging from Old-Growth Forest Ecology to Environmental Management for Sustainable Development.
2. Since 1991 I have been Executive Director and Research Ecologist for Ancient Forest Exploration & Research, a non-profit forest research organization. This organization’s activities include research and education focusing on the ecology, protection, and scientific application of ancient forested landscapes.
3. I obtained my Doctor of Philosophy (Forest Ecology) from the University of Toronto in 1988. My thesis was entitled, “Vegetation, environment and disturbance in the upland forested landscape of Algonquin Park, Ontario”. I obtained my Masters of Forest Science (Forest Ecology) from Yale University in 1982,
4. I have published a number of articles and papers on forest ecology issues, including several publications on the old-growth pine forests of Temagami. These publications are listed in greater detail in my curriculum vitae (Exhibit A; included in court document only).
5. In particular, in 1996, I conducted a study relating to old-growth white and red pine in the Owain Lake region of Temagami. My report entitled, “A Critique of the Proposed Management of Old-Growth White and Red Pine Forest in Temagami, Ontario Resulting from the Comprehensive Planning Process of 1996 with a Case Study Analysis of the Owain Lake Old-Growth Pine Stand as a Representative Ecosystem” (Exhibit B; included in court document only).

Summary

6. In my opinion, if the Owain Lake Stand of old-growth red and eastern white pine is logged it would be an irreplaceable loss for Ontario and beyond. In particular, I have three concerns:
 - a. old growth eastern white and red pine stands are both very rare and important to the ecosystem. If they are logged, irreversible harm will result;
 - b. it is important to protect many old-growth stands because of their rarity and also to ensure that some are left in the event that stands are subjected to catastrophes such as fire, disease, or wind storms; and
 - c. the Owain Lake Stand is unique. If the Owain Lake Stand is logged, then Ontario will lose a distinctive part of its old-growth pine ecosystem for the foreseeable future.

Old-growth stands are rare and important

7. Old-growth eastern white pine forest is an endangered ecosystem. Of the approximately 60,000 square kilometers (or 6,000,000 hectares, which is equivalent to an area of 600 km by 100 km) of old-growth eastern white pine forest that is estimated to have existed prior to European colonization in North America, only an area of approximately 240 square kilometers (or 24,000 ha, which is equivalent to an area 24 km by 10 km) remains today. That is, less than 1% of what was the old-growth eastern white pine forest remains as old growth. Data on old-growth red pine is not as complete but preliminary analysis shows it is also likely and endangered ecosystem. My estimate is that there is less than 1% remaining of old-growth red pine. My report on red pine is attached (Exhibit C; included in the court document only).
8. Temagami harbours over one-third of the old-growth eastern white pine forest remaining in the world. This one-third amounts to an area approximately equivalent to 100 square kilometers (or 10,000 ha, which is equivalent to an area 10 km by 10 km). This area is miniscule when compared to the area of Ontario approved for timber harvesting in the Class Environmental Assessment decision for Timber Management on Crown Lands, which was over 385,000 square kilometers (or 38,500,000 ha, which is equivalent to an area 385 km by 1,000 km).
9. The Owain Lake Old-Growth Stand lies in Hebert and Burnaby Townships, and contains 14 square kilometers (or 1,400 ha, which is equivalent to an area 7 km by 2 km) of old-growth eastern white and red pine. It is the third largest known stand of old-growth eastern white and red pine. It is the third largest known stand of old-growth eastern white pine remaining in North America.
10. I produced a survey on the remaining old-growth eastern white pine forests in Canada and the United States which I co-authored with P.A. Giroux (Exhibit D; included in the court document only). I also prepared a report on the endangered status of old-growth eastern white pine forest (Exhibit E; included in the court document only).
11. Not only are old-growth forests rare, but they are also important because they are part of the habitat of many animal species, such as the Pileated Woodpecker and the Pine Marten, which prefer mature trees. The Environmental Assessment Board noted that certain species require old growth, and ordered that a

precondition of logging in Ontario be that the MNR produce Timber Management Guidelines for the Provision of Pine Marten Habitat and Timber Management Guidelines for the Provision of Pileated Woodpecker Habitat (Condition 94 of the Environmental Assessment Decision).

12. Furthermore, the remaining old-growth stands are important because they protect the genetic variability and diversity of the species. Studies conducted by the Ontario Forest Research Institute of the Ministry of Natural Resources (OFRI-MNR), the Department of Renewable Resources at the University of Alberta, and BioGentica Inc. indicate that shelterwood logging of old-growth stands elsewhere resulted in a 25 to 50% loss in genetic variability. I have attached the OFRI-MNR research report as Exhibit G to this affidavit (included in the court document only). It is therefore likely that the logging of the Owain Lake Stand would result in an irreversible loss of genetic biological diversity.

Importance of protecting multiple old-growth stands

13. It is important to protect multiple old-growth stands not only because they are rare, but also because of the need to minimize the possibility of total loss from natural disturbances such as wind storms, forest fires, insects, and disease. To protect too few stands is to flirt with ecosystem loss. Even assuming the old-growth were able to grow back, regeneration would take over a century.
14. The Owain Lake Stand is therefore important not only because it forms part of the rare Ontario old-growth pine forests, but also because it protects against decimation of the old-growth forests by fire, insects, wind, and disease.

The Owain Lake Old-Growth Stand is unique

15. In my research in 1996, I found that the Owain Lake Stand was biologically unlike any other known old-growth pine stand. It contains ten plant species not found at the Lake Obabika Stand, which has been recognized by others as the old-growth pine stand most similar to the Owain Lake Stand. Four of these species are regionally rare and three are locally rare. In fact, none of the rare plants found at the Owain Lake Stand were found at the Lake Obabika Stand. A list of the species present at the Owain Lake Stand and absent from the Lake Obabika Stand is found in Exhibit B (see Table 1).

Table 1. Species present at the Owain Stand and absent from the Obabika Stand

Scientific Name	Common Name	Plant Type	Significance
<i>Acer pennsylvanicum</i>	striped maple	shrub	regionally rare
<i>Cornus rugosa</i>	round-leaved dogwood	shrub	locally rare
<i>Dalibarda repens</i>	dewdrop	herb	common
<i>Dryopteris marginalis</i>	marginal wood fern	fern	regionally rare
<i>Goodyera repens</i>	dwarf rattlesnake plantain	herb	locally rare
<i>Matteuccia struthiopteris</i>	ostrich fern	fern	locally rare
<i>Medeola virginiana</i>	indian cucumber root	herb	regionally rare
<i>Mitchella repens</i>	partridgeberry	shrub	regionally rare
<i>Mitella nuda</i>	naked mitrewort	herb	common
<i>Orthilia secunda</i>	one-sided wintergreen	herb	common

16. My research also revealed that the abundance of understory species, overstory species, and dead wood in the Owain Lake Stand differed significantly from the lake Obabika Stand. In particular, I found that the abundance of six of the seven common understory herbaceous species compared are significantly different between the stands. Also, three of the seven non-pine common overstory tree species are significantly more abundant in one stand than the other. For example, white cedar is approximately 27 times more abundant in the Obabika Stand while red maple (three times greater) and white spruce (8.5 times greater) are significantly more abundant in the Owain Stand. In my comparison of dead wood (including snags and logs), I found that log density in the Obabika Stand was 2.2 times greater than the density measured in the Owain Stand.
17. The conclusion that the Owain Stand is unique represents a development in our understanding of the Owain Stand. Earlier studies, which were not based on biological inventories but rather inferences drawn from surface geology, surmised that the Owain and Obabika Stands were biologically similar. My recent research, being based upon the forests themselves rather than on conclusions drawn from Geology, represents a step forward in the understanding of the Owain Stand.
18. The MNR “Conservation Strategy for Old Growth Red and White Pine Forest Ecosystems for Ontario” completed in accordance with condition 103(c) of the Class Environmental Assessment decision states that “the key objective for protection is to protect representative ecosystems of old-growth red and white pine in each site district in Ontario within the natural range of pine”. It is my opinion that the Obabika Stand does not represent the species and ecosystems found at the Owain Stand.
19. In my opinion, cutting the Owain Stand would result in an irreversible loss because old-growth stands are rare, it is important to protect multiple stands, and because the Owain Stand is itself unique.

References

Algonquin Wildlands League. 1998. *Citizens Groups Win Important Forestry Court Case Against Government*. News Release, Algonquin Wildlands League, Toronto, Ontario. 1 pp.

Quinby, P. A. 1996. Affidavit of Peter A. Quinby. In: *Algonquin Wildlands League and Friends of Temagami v. Minister of Natural Resources*, Ontario Court (General Division), Divisional Court (Court File No. 539/96), Toronto, Ontario. 15 pp.

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