

An Overview of the Conservation of Old-Growth Red and Eastern White Pine Forest in Ontario

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INTRODUCTION

Ontario's Ancient Forests Project began in 1990. Prior to that, the project had been ongoing for two years as the Tall Pines Project with the Temagami Wilderness Society-TWS. From 1990 to 1992, it was a project of the Wildlands League and since 1992, it has been run by Ancient Forest Exploration & Research (AFER). In order to achieve our conservation objectives, we have worked closely with grassroots conservation NGOs including Earthroots, the Wildlands League, and the Friends of Temagami. Using results obtained from our field and lab studies of forested landscapes in Temagami (see the list of publications produced by AFER) and using a variety of public education strategies, the conservation NGO's have pressured the Ontario government to improve management practices and protect old-growth pine forest in Temagami. Numerous government initiatives and other research and management activities have resulted at least in part from this pressure. These initiatives and activities have involved work in the areas of science, management, and policy as they related to conservation in the Temagami region and protection of old-growth pine forests throughout central Ontario. This report briefly describes some of the more significant of these initiatives and activities in the context of science; education, recreation, and tourism; management, and policy.

SCIENCE

Discovery of the Obabika Lake Old-Growth Pine Stand "It was not until Quinby and the TWS initiated the Tall Pines Project in 1988 (Quinby 1988) that anyone had attempted to identify the specific qualities of an old-growth forest in northeastern North America!" (Killan 1990). During the summer of 1988 we discovered the largest remaining continuous stand of old-growth red and eastern white pine forest (Cundiff 1989) at the north end of Obabika Lake in Temagami, Ontario. During the winter of 1988-89 we also discovered that less than 2% of our old-growth white pine forests remain world-wide making them an endangered ecosystem type. These findings were later documented in two publications (Quinby 1993, Quinby and Giroux 1993).

Pinto Old Growth Inventory Shortly after our first field season (1988), and following the flood of press about Temagami's endangered old-growth pine forests, I initiated a survey of old-growth red and eastern white pine forests in Ontario by sending survey forms by mail to all Ontario Ministry of Natural Resources (OMNR) district managers. Discovering that I was conducting this survey, the OMNR policy managers decided that they should be the ones to do the survey and thus convinced me to let them carry it out. They used their Forest Resource Inventory

data base to identify all forest stands in Ontario greater than 120 years of age that were dominated by red pine and/or eastern white pine (Pinto 1989).

The Day Ecology and Silviculture Reports “In the spring of 1989, ... [the Ministry of Natural Resources] asked Professor Robert Day of Lakehead University to do a study on the ecology and silviculture of white and red pine in the Temagami Area” (Ontario Ministry of Natural Resources 1991b). Day’s first report showed that red and eastern white pine forests make up about 10% of the Temagami forest (Day 1990a). His second report found that, prior to fire suppression, major fires went through Temagami’s red and eastern white pine stands about once every 125 years and that without disturbance by natural wildfire or without mimicking fire, these pine forests will be replaced by tolerant hardwoods, balsam fir, and spruce (Day 1990b).

The Sharpe Report Following release and distribution of our *Old-Growth Forest Survey in Temagami's Wakimika Triangle* (Quinby 1989) in early 1989, and less than two weeks after the Minister of Natural Resources called a freeze on logging in the Obabika Old-Growth Pine Area, the Ministry of Natural Resources, Temagami District Ecologist presented findings of his preliminary ecological inventory of the Obabika Area (Sharpe 1989). In this report he recommended (1) that a more detailed ecological inventory of the Obabika Area be carried out and (2) that the remainder of the Lake Temagami Site Region (approx. 5 million hectares) also be inventoried for old-growth red and eastern white pine forests.

The White Reports Following their District Ecologist’s advice, the Ministry of Natural Resources contracted for an ecological inventory of (1) Lady-Evelyn Provincial Park (just north of the Obabika Area; about 72,000 hectares in size) (White 1990a) and (2) the remainder of the Temagami Planning area (White 1990b). White found that the Obabika Area was provincially significant and recommended that it be permanently protected. He also identified a number of ecologically significant sites in the Temagami region. Finally, in June of 1996, the Ontario Minister of Natural Resources announced that the Obabika Old-Growth Area (3,520 hectares) was officially protected as an addition to the Obabika River Provincial Park (Ontario Ministry of Natural Resources 1996).

The Iles Report Based also on Sharpe’s (1989) recommendation, the Ministry of Natural Resources contracted for the *Reconnaissance Inventory to Locate Old White and/or Red Pine Stands in Site Region 4E of the Ontario Ministry of Natural Resources* (Iles 1990). This inventory resulted in the identification of ten additional large old-growth pine areas within the Site Region (5 million hectares) many of which would later become protected by the Harris government through the “Lands for Life” process. Although it was not reported in the Iles (1990) report, due to a mapped age of slightly less than 120 yrs., this inventory identified the Lower Spanish Pine Forest as the largest pristine landscape of red and eastern white pine-dominated forest in the world. This pine landscape would later become the focus of our field research during the summers of 1993 to 1995.

The Arbex Report Through a government contract, ecological field inventories of five of the ten old-growth pine areas identified by Iles (1990) were carried out during late summer and fall of 1990. “The intent of the project was to evaluate, map, and report on...areas...similar to the

Obabika Lake candidate ANSI” (Arbex Forest Development Co. Ltd 1991). An ANSI is a protected area.

Gap Analysis for the Temagami Site District In 1991, the OMNR contracted with Geomatics International to “identify representative plant communities present within the candidate areas...and to identify provincial parks and non-park areas that will provide viable representation of the complete spectrum of plant communities known to occur within the [Temagami] Site District” (Geomatics International 1992). Among their ten recommendations, they stated that “Fifteen natural areas are provincially significant and should be incorporated into a program of protected natural areas” including the Obabika Old Growth Area.

The Forest Fragmentation and Biodiversity Program Recognizing the obvious advantages of having more information about old-growth white and red pine forests, the provincial government established the Forest Fragmentation and Biodiversity Program within the Ontario Forest Research Institute in 1991. This program “is designed...to address the significant knowledge gaps concerning the occurrence and distribution of red and white pine old growth forests and their role in maintaining biodiversity and key ecosystem processes in Ontario” (Perera 1991). So far, the program has produced more than 20 research reports (mostly contracted to consultants) focussing mainly on a variety of issues related to the regional ecology of red and eastern white pine forests (e.g., Carleton and Gordon 1992).

Gap Analysis for the Mississagi Site District

Building on other gap analysis work done in the Lake Temagami Site Region, the Ministry of Natural Resources again contracted with Geomatics International (1994) to “complete a gap analysis and recommend candidate areas that will fulfil the representation requirements for Site District 4E-3 [Mississagi Site District]”. Among their 20 conclusions and recommendations, Geomatics stated that, “There is insufficient old-growth red and white pine left in 4E-3 to represent it in a system of protected areas in the same proportion in which it originally occurred, and it is a rare habitat in Ontario. Thus, based on the current knowledge of remaining old growth, all remaining old-growth red pine and white pine in 4E-3 should be protected”. In addition, they stated that “corridors should be established between Recommended Core Areas”.

This Geomatics report was not received well by the OMNR. In fact, the Ministry refused to release the report to the public due to the counter-policy content of the consultant’s report: “The draft report is being released at this time in response to a ruling on a freedom of information request from a non-government organization” (Stewart 1994). Their major criticism was that, “in its current form, the report incorporates assumptions and interpretations of current science that are hypothetical, and untested in forested landscapes”. Rather than take the advice of their consultant, they decided to produce their own gap analysis of Site District 4E-3, which was eventually released in January of 1996 (Crins 1996). This Ministry report did not recommend protection for all remaining old-growth red and eastern white pine areas and only increased protected area in the Site District to 5.3%. This is far below the minimum of 12% identified in the Ontario Forest Accord (1999).

National Framework for Ecoregion Gap Analysis It wasn't until our seminal work identifying and describing old-growth pine forests in Temagami (Quinby 1989, 1990, 1991b) that the Ontario government began to focus additional studies in the Temagami area and throughout the adjacent region reaching westward to the eastern shore of Lake Superior (e.g. Geomatics International 1992, 1994). By the mid-1990s, it had become clear that the world's largest concentration of old-growth red and eastern white pine forests was located in the Lake Temagami Site Region (4E), and that the Site Region had become one of Ontario's best studied regions from the perspective of natural heritage. Recognizing these features, the Canadian Council on Ecological Areas chose the Lake Temagami Site Region as one of three model study areas to develop their national *Framework for Ecoregion Gap Analysis* (Gauthier et al. 1995).

Conservation Suitability Mapping - World Wildlife Fund Canada "WWF developed a methodology for conservation suitability mapping for candidate site identification [on]...39 million hectares of public land in Central and Northern Ontario" (Riley et al. 1999). Of the many data themes used to identify these candidate protected areas, old-growth red and eastern white pine forest was the only vegetation type used. This was primarily due to its conservation value and it's the substantial available database.

EDUCATION, RECREATION AND TOURISM

Public Education Prior to September of 1988, not a single popular magazine or newspaper included reference to any type of old-growth forest native to the Province of Ontario. Following our first field season studying Temagami's ancient pine forests, more than 200 popular articles about or related to Temagami's ancient pine forests were published in 1988 and 1989 alone. Thus, our work had a very significant influence on public awareness of old-growth forests in Ontario.

Recreation and Tourism Following the successful efforts of environmental activists to publicize and protect old-growth pine forests in Temagami, tourism visitation increased significantly in the region (Johnson 2000). For example, during the summer of 1989, the Obabika Old Growth Area was Temagami's most popular canoe route destination (Sharpe 1989). In addition, since then, numerous wilderness lodges and outfitters have designed programs around recreation to and within Temagami's ancient pine stands (e.g. see ww.temagami.com/guidedcanoe-oldgrowth.html).

MANAGEMENT

Temporary Protection of the Obabika Lake Old-Growth Pine Stand

The Obabika Old-Growth Area was scheduled for logging in the fall of 1989 and road construction to access the stand had already begun. Our discovery that it was the largest remaining stand of its kind in the world of an endangered ecosystem helped to mobilize a campaign to protect it (Globe and Mail 1989, Temagami Wilderness Society 1989).

In June of 1989 the TWS organized a blockade of the Red Squirrel Road to halt logging access to the Obabika Old Growth Area (Henton 1989). In September of 1989, Mr. Bob Rae (then the leader of the opposition (NDP) in the provincial legislature) was arrested for his blockading activity on the Red Squirrel Road (Applyby and Mackie 1989). Six months later, he was elected Premier of the Province of Ontario. After six months of blockading and 360 arrests, the Ontario government called for temporary protection of the Obabika Stand (Allen 1989). The area was later protected in 1996.

The Temagami Comprehensive Planning Council The Temagami Comprehensive Planning Council was created by the Minister of Natural Resources in May of 1991 (Ontario Ministry of Natural Resources 1991c). This council was made up of 13 representatives of local stakeholder groups and was given the responsibility to provide recommendations to the Minister of Natural Resources regarding natural resource management issues in Temagami including the preparation of a comprehensive land use plan (Temagami Comprehensive Planning Council 1996). Among others, “A Strategy for Landscape Management” and “A Strategy for the Management of Red and Eastern White Pine Forests for Old Growth Characteristics” for the Temagami region (approx. 500,000 hectares) were produced as part of the plan. The following old-growth red and eastern white pine areas were protected in 1996.

- North Obabika Old Growth (3,520 ha)
- Matabitchuan Old Growth (102 ha)
- Ottetail Creek (844 ha)
- Rabbit Lake Old Growth (473 ha)
- Cliff Lake (2,856 ha)
- White Bear Forest (1,377 ha)
- Indian Bay South (1,202 ha)
- Temagami Island-McLean Peninsula (330 ha)
- Jim Edwards Lake (8,698 ha)
- North Yorston (6,880 ha)
- Smith and Lulu Lakes (1,606 ha)

The Wendaban Stewardship Authority The Wendaban Stewardship Authority in Temagami was created by the Minister of Native Affairs also in May of 1991 (Ontario Native Affairs Secretariat 1991) to undertake resource management in the four townships where the Obabika Lake Old-Growth Pine Area (largest of its kind left in the world) is located. The Authority (six natives and six non-natives) provided a mechanism for the local native population (Teme-Augama Anishnabai) to have some control over decisions affecting their homeland. The Authority recommended that the Obabika Old Growth Area be protected (Ontario Ministry of Natural Resources 1995a).

White Bear Forest Partnership The White Bear Forest is a 800 hectare pristine area dominated by old-growth red and eastern white pine forest that is located only a few kilometers from the Town of Temagami, Ontario. It was first identified and described as an old-growth area through our field studies. In 1994, half of it was scheduled for logging, however, a number of individuals expressed concern about this proposed logging and pressured the Ministry of Natural Resources to create a committee to study this decision. In response to this, the government established the White Bear Forest Partnership made up of numerous people representing a

variety of interests. After a few meetings, on July 11, 1994 the Partnership determined that “Timber harvesting should not be considered as an objective to be met in the WBF [White Bear Forest]” (White Bear Forest Partnership 1994). This old growth area was later officially protected in 1996 when the provincial government accepted the recommendations of the Temagami Comprehensive Planning Council.

Class Environmental Assessment In their 1994 report, the Ontario Environmental Assessment Board (OEAB) stated that “Dr. Peter Quinby...told us that only 0.2% of the original white pine forest in the United States and Canada is still standing, and less than 1% of Ontario’s original white pine forest remains. We do not quarrel with this estimate; it is clear that not much original white pine forest is left. We are persuaded that steps need to be taken to protect it”. These steps were described mainly in condition 103 of the Environmental Assessment document (OEAB 1994) and are listed below.

- “During the term of this approval, MNR shall investigate the subject of ‘old growth’ ecosystems and develop a policy to provide an environmentally sound conservation strategy, and definitions of old growth specific to Ontario forest conditions”.
- “As an interim measure, within two years of this approval, MNR shall develop management direction concerning old growth values for use in timber management planning”.
- “MNR shall provide an environmentally sound conservation strategy and management direction concerning red and white pine old-growth values for use in timber management planning across the Area of the Undertaking by May 1995.”
- “Old-growth red and white pine stands within Site Region 4E shall continue to be excluded from harvesting until such a policy is provided and implemented”.
- “For the purpose of this approval, and until a provincially coordinated general policy setting out an environmentally sound conservation strategy is provided, which (a) defines old growth white and red pine or deems what is old growth white and red pine, and (b) provides a specific process to identify and plan for the management and conservation of old growth white and red pine, Timber Management Plans must record as values...all sites found to contain communities of old growth white and red pine”.

Strategies for the Management of White and Red Pine – Fort Frances District In December of 1993, before the final report of the Ontario Environmental Assessment Board (1994) was released, the Fort Frances District of the Ministry of Natural Resources (1993) released their 130+ page report addressing improved management of white and red pine forest, particularly the old growth component.

Protecting Old Growth with Environmental Assessment In April of 1997, Earthroots requested an environmental assessment of the Temagami Contingency Forest Management Plan based on the issue that red and eastern white pine forests are endangered ecosystems (Quinby 1993). This resulted in “all allocated old-growth red and eastern white pine stands being pulled from the 1997 annual work schedule and not logged” (Earthroots 1998b).

Blueberry Lake Watershed Protection In 1997, we discovered the pristine forests of the Blueberry Lake Watershed. This watershed is about 2,000 ha in size and is composed of numerous types of old-growth, pristine forest including old-growth pine forest. We have been collecting data in the watershed since 1997 and hope to continue to do so in the future. However, the government has approved plans for logging in the northern 20% of the area. After attempting unsuccessfully to convince the Ministry of Natural Resources to protect the watershed from logging, in February of 1999, Earthroots requested an “issues resolution process” per section 3.4 of the Ontario Forest Management Planning Manual. Along with Earthroots I was involved in trying to negotiate protection for the watershed through formal issue resolution meetings with both the District and Regional Managers of the Ministry of Natural Resources. Neither manager was willing to provide any kind of significant protection for the area, thus according to procedure, the issue was sent to the Minister of the Environment for final resolution. In his decision letter, the Minister of the Environment stated that “Before scheduled harvest operations commence in the Blueberry Lake area, MNR will facilitate a small task team comprised of eco-tourism operators directly affected by forest management operations in the Blueberry Lake area, and representatives of the forest industry. MNR shall ensure that one member of the task team be a representative of Earthroots. This team will attempt to resolve outstanding concerns by identifying specific areas of concern in the Blueberry Lake area...[and] create further site-specific ‘area of concern prescriptions’ for these” to be completed by January 31, 2000.

POLICY

Ontario Round Table on Environment and Economy In 1990, this Ontario policy advisory body stated that, “old growth pine stands that are hundreds of years old and have never been cut – are unique and important habitat for wildlife as well as sources of genetic diversity. They “should be viewed as non-renewable and essential parts of our natural heritage”. “Directional changes include...maintaining and enhancing...old growth forests”.

Ban on Clearcutting Prior to July of 1990, clearcutting of original white pine forests in the Temagami region of Ontario was the most common form of logging (Benson et al. 1989). Shortly after our work documenting the self-replacement of white pine in the old-growth pine forests of Temagami (Quinby 1989, Quinby 1990, Quinby 1991b, Quinby 1991c), and with extensive pressure from conservation NGOs, the Ontario government declared that “There will be no clearcutting of old red and white pine stands” (Ontario Ministry of Natural Resources 1990). Our work provided the scientific basis to replace clearcutting with shelterwood logging as the standard form of white pine harvesting in Temagami and eventually throughout the Province of Ontario (Ontario Ministry of Natural Resources 1997).

Endangered Spaces Campaign In 1989, World Wildlife Fund Canada established the Endangered Spaces Program to “conserve Canada’s biological diversity by protecting a representative sample of each of the country’s natural regions by the year 2000” (World Wildlife Fund Canada 1990). Our work on old-growth forests helped to set the agenda for this campaign.

- The 1991 *Endangered Spaces Progress Report* called on the Ontario government to “defer logging of all identified old-growth forests until protection targets in the old-growth strategy are met” (World Wildlife Fund Canada 1991).
- The 1993 *Endangered Spaces Progress Report* called on the Ontario government to “implement the protected areas components of the Old Growth Forests Policy Advisory Committee’s interim and final reports” (World Wildlife Fund Canada 1993).
- The 1994-95 *Endangered Spaces Progress Report* called on the Ontario government to “implement the full recommendations of the Final Report of the Old Growth Forests Policy Advisory Committee” (World Wildlife Fund Canada 1995).
- The 1996-97 *Endangered Spaces Progress Report* stated that “A significant protected area is still required in the Algoma Highlands, an example of relatively undisturbed forest land, with a significant old growth component” (World Wildlife Fund Canada 1997).

Ontario Old Growth Conservation Initiative “In January, 1992 the Ontario government announced the Old Growth Conservation Initiative and established the Old Growth Forests Policy Advisory Committee. The advisory committee was given the mandate to develop a strategy for conserving old growth forest ecosystems in the province” (Old Growth Policy Advisory Committee 1994). Resource managers, scientists, and the public were consulted over a period of two years in order to formulate this strategy.

A Natural Heritage Areas Strategy for Ontario In this policy document, the Ontario Ministry of Natural Resources (1992b) stated that “old growth forest sites can...play a role in protecting elements of Ontario’s natural heritage. Through special management, such areas could be protected as areas of natural and scientific interest, or perhaps even, ecological reserves”.

Ontario Forest Policy Report Because “the forest policy scene was in disarray” the Ontario Forest Policy Panel was established by the government to undertake the “task of determining new directions for Ontario’s forest policy” (Ontario Forest Policy Panel 1993).

- “Old growth forests are a particularly important element of forest biodiversity. Because natural forest processes are sometimes unpredictable, maintaining sufficient old growth in Ontario’s forest landscape will be difficult. Special protection measures may be necessary”.
- “Old growth forests are an important component of the Natural Heritage Areas Strategy. Old growth is difficult to preserve as natural heritage because forests are dynamic. Some old growth will burn or blow down over time, although it may be a long time. For old growth stands which are in parks as representative ecosystem types, this is part of natural change and is consistent with the goal of the parks system”.

A Conservation Strategy As specified in the Class Environmental Assessment, the Ministry of Natural Resources released *A Conservation Strategy for Old Growth Red and White Pine Forest Ecosystems for Ontario* in 1995. This strategy is now Appendix IV of *the Forest Management*

Planning Manual for Ontario's Crown Forests (Ontario Ministry of Natural Resources 1995b). The key objective of the strategy is “to protect representative ecosystems of old growth red and white pine in each site district in Ontario within the natural range of pine”.

Ontario's Parks and Protected Areas: A Framework and Action Plan Our continuous work on old-growth pine forests has helped to establish old-growth forests as a natural heritage priority in Ontario: “gap analyses...[should] identify special natural values based on themes such as VTE species, old growth forests, wetlands, prairies and alvars” (Ontario Ministry of Natural Resources 1997b).

New Forestry Standards In 1998, the Wildlands League released its public review draft of *Standards for Well Managed Forestry in the Central and Southern Great Lakes-St. Lawrence Forests of Ontario*. These standards were designed in conjunction with the North American Forest Stewardship Council. The only forest type for the region of concern that is specifically targeted for a special, specific set of standards is the eastern white pine-dominated forest type (Johnson 1998). The following recommendations were made in this report.

- The goal of white pine management should be to increase its relative abundance and to conserve genetic diversity. Property owners are encouraged to work towards returning the relative abundance of white pine to its pre-European settlement levels.
- Where white pine is being cut, successful regeneration efforts must be demonstrated.
- Old growth white pine stands (>120 years) should not be cut where they represent less than 10% of the white pine working group in the area covered by the management plan.
- Late seral stages of most of the commercially targeted species in the GLSL forests are at present significantly under-represented relative to their historic levels. Late seral stage, old growth, or mature forests are an essential component of the forest landscape and provide critical habitat for many species. Remnant pockets of natural forest with no recent (last 100 years) history of logging should be set aside as part of the protected landscape network.

Minister of Natural Resources Found Guilty of Breaking His Own Laws As a forest conservation scientist, I (Peter Quinby) 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. “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. 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).

Lands for Life “In February 1997, the Honourable Chris Hodgson, then Minister of Natural Resources, announced Lands for Life, a comprehensive program for planning all aspects of the future use of Ontario’s Crown land and resources...The planning processes weren’t working very well, and seemed to be producing conflicts rather than resolving them. It was time for a completely new approach... [Thus] the Minister appointed members from each planning area...to consult with the public, and develop and recommend to the Minister a draft regional land use strategy” (Michels et al. 1998). The following recommendations made by the Round Tables were influenced to some degree by our work.

- “When establishing provincial park and conservation reserve boundaries, MNR should give priority to protecting mature white and red pine stands”. (Recommendation #17)
- “MNR should revise its fire management strategies to promote renewal of natural heritage ecosystems by considering allowing natural fire, and using prescribed burning, on other islands in large islands, especially in white and red pine forests”. (Recommendation #19)
- “MNR should continue research into the scientific basis of natural heritage representation”. (Recommendation #30)
- “MNR should...collaborate with appropriate partners to establish an enhanced old growth, forest field research program”. (Recommendation #32)
- “MNR should...Collaborate with appropriate partners to research the impacts of natural and human disturbance, using the potential of protected areas to serve as benchmarks”. (Recommendation #32)
- “MNR should...develop conservation strategies for old growth species other than white and red pine”. (Recommendation #32)
- “MNR should ensure that forest management planning maintains 20 percent of white and red pine forests in age classes older than the natural disturbance interval”. (Recommendation #197)
- “MNR should ensure that white and red pine forests continue to exist and contribute to biodiversity by:
 - removing representative mature stands from forest licenses;
 - increasing planting in productive forest throughout these species natural ranges;
 - ensuring that harvesting and silvicultural operations maintain and enhance these species wherever found; and
 - increasing efforts to protect mature stands on private lands through landowner agreements”. (Recommendation #218)

As a result of the Lands for Life process, protected area in central and northern Ontario doubled from six to 12% of the landscape. One of the larger new protected areas was protected in large part due to our science and conservation studies: the Spanish River Provincial Park. This new park protects a large portion of the world’s largest landscape of pristine red and white pine forest

at 37,125 ha. Adjacent “enhanced management areas” at 29,000 ha have also been designated. Enhanced management areas are supposed to maintain the health of the old-growth red and eastern white pine ecosystems while allowing traditional resource extraction activities.

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