



# Forestory

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## *The Shantymen*



### *We want to hear from you!*

If you have articles, photographs or images, interesting facts, web links, personal reflections or events that would be suitable for this newsletter, please contact the editor.

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# Request for Content

Do you have an interesting story to tell about some aspect of forest history in Ontario? Or are you prepared to write an article for the newsletter on some aspect of forest history? Do you know of interesting photographs, documents, web sites or other items that would be suitable for inclusion in the newsletter? If so, please contact the editor to discuss the possibility of publishing your information in the newsletter.

Please provide your comments to the editor on items or themes you would like to see in the newsletter.

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# Chair's Message

## Big Shoes to Fill, But We Are Up to the Task

It is with great pleasure that I deliver my “inaugural address” to the members of the Forest History Society of Ontario. I was delighted to be elected the FHSO's new Chairman at our AGM back in February, and gladly accepted this privilege. By the same token, I took up this post knowing that our former Chairman, Ken Armson, had set the bar at a very high level. Building upon his lifelong dedication to Ontario's forest history, Ken oversaw the FHSO's creation and nascent years. The fact that it is now thriving and boasts over one hundred members is a glowing testament to his exemplary commitment to discovering, preserving, and publicizing our province's illustrious forest history during his term.

We have much work to do in fulfilling our mandate, but there is every reason to believe we will succeed in doing so. The FHSO's directors are working on honing the Society's Strategic Plan, for example. It is intended to serve as a road map for the direction in which the FHSO wishes to move over the near and long term. In addition, we are considering all our options in terms of moving forward with *Forestry*, our superb journal. Sherry Hambly, who devoted countless volunteer hours to working as its editor and to whom we owe an enormous debt of gratitude, will not be available to fulfil this role in the future. As a result, the board considers it a matter of the highest priority to find a means by which we can sustain the consistent production of a publication that is something of which we can all be proud. In this regard, we welcome suggestions from one and all about how best to proceed. Considering the tremendous support the FHSO's members have shown for the Society's work over the last few years, and the remarkable talent pool represented by those members, we are confident that we will resolve these pressing matters in a constructive and effective manner.

Rest assured that there is growing broader support for forest history both in Ontario and across the country. The Canadian Institute of Forestry, for instance, will soon be publishing an edition of its journal, *The Forestry Chronicle*, which is entirely devoted to Canada's forest history. Having had the privilege of guest editing this document, I can reveal that it will contain at least three articles devoted to different aspects of our province's forest history; the FHSO's former chairman also contributed a piece about Canada's last dominion forester.

Now that the winter is over – finally! – it is time to enjoy Ontario's trees in all their splendour. Whether the next few months find you strolling through one of the few remaining stands of our province's Carolinian forest in southern Ontario, hiking through the hardwoods of Haliburton in central Ontario, swatting the black flies from your face as you camp amidst the boreal forest's spruce blanket in northern Ontario, or watching the dwarf tamarack pass by the train window on the Polar Bear Express up to Moosonee, here's wishing you a healthy and happy spring and summer!

**Mark Kuhlberg PhD**  
**Chair, Forest History Society of Ontario**

## Editor's Message

There's an old saying: "Life is what happens when you have made other plans." This saying certainly applied to me this past winter. Coming home from the FHSO annual general meeting in February I was hit head on by a truck that spun out on snowy roads. I ended up with two broken vertebrae in my neck and in ICU at St. Mike's in Toronto. But luckily, there was no nerve damage and I was eventually able to go home with a neck brace, which I have worn for the past three months. Originally, I did not think I would be able to produce this issue of *Forestory*, but after six weeks at home doing virtually nothing, I felt I could work away at it a bit each day. So here it is - about five weeks late, but done! Putting the journal together gave me something to do each day and I am glad for that.

Once again I marvel at what I have learned by putting this issue together - Peter Hynard makes us look at what is around us and asks us to use this information as history. Ken Plourde piqued my interest in Shantymen and through internet research I discovered the important role this work played in the lives, economy and culture of early Canada. I was unaware of the ghost town Muskoka Mills and the pollution it caused through its sawdust ponds until I read Mary Grunstra's article. There must be many other ghost towns out there with similar stories. John Bacher describes the competing interests that shape decision-making about our forests and the effects of wholesale forest destruction, and it makes me wonder why we do not see the value of our forests. And I think it must have been a special feeling for Ken Armson to have been on or near the spot where Tom Thompson painted two of his iconic paintings.

Normally I try not to do the writing of articles for *Forestory*, but I couldn't persuade my friend Peter Hynard to write about the ecology of hemlock and my other lead did not materialize so I proceeded to investigate hemlock on my own (wrong move!) but got engrossed in the paleoecology of this species. Not only did I learn about hemlock, I learned that there are now three super Kingdoms, and, that fungi are more closely related to animals than plants. In "my day" life was simpler - there were two Kingdoms, plants and animals, and fungi definitely were plants. But DNA analysis has changed our ideas on what belongs where. And I wonder what is in store for our Ontario hemlock. I enjoy these tall, rugged trees when I go walking in Mark S. Burnham park and I will be very sad indeed if they disappear.

So much of our Canadian art involves our forests and trees - our natural environment truly is a part of our soul. I hope to explore this topic more in future issues of *Forestory*.

And we have started a new program - oral interviews – you can read more about this project later on in this issue.

The annual general meeting of the FHSO brought about changes - Mark Kuhlberg replaces Ken Armson as Chair (I look forward to working with you Mark and I will miss working with you Ken). I announced my retirement as editor of *Forestory* effective the end of 2014, although I will continue to stay involved in the production where it makes sense. And I will continue to stay on as Webmaster for the next little while. Thank you Mark for your kind comments on my contribution to *Forestory*. I have enjoyed my tenure as editor very much.

Have a great summer, and be sure to tell your loved ones on a regular basis that you love them - you never know what might happen to you.

Take care everyone!

**Sherry Hambly MScF**

# Documenting Unwritten Forest History

By Peter Hynard

**Editor's Note:** This article is a condensation of a presentation made to the Forest History Society of Ontario at their 2014 AGM.

## Introduction

The makeup of our forests is as much a product of their disturbance history as it is of the sites on which they are growing. Forest managers have long known the importance of history to forest management and have long included disturbance history in their description of forest condition. The problem they face in their work is the lack of records documenting stand history, forcing them to turn to physical evidence and dendrochronological methods. A shovel, an increment borer, a sound knowledge of soils, sites and stand dynamics, and an experienced eye are the essential tools of the trade.

There are four historical forces that shaped our forests, these being geological history, glacial-geological history, natural disturbances and man-made disturbances.

## Geological and Glacial-Geological History

Bedrock geology is important to forest management in that bedrock controls both topography and drainage and, in most cases, it is the parent material for the soils our forests are growing on. The main bedrock types on the Algonquin Dome and southern Shield are Precambrian granite and gneiss which, when subjected to glacial ice-action, produce an acidic, sandy till soil of modest fertility. Farther east in the marble belt, soil texture, depth and landform are similar but the resulting soils are calcareous and more fertile, and the resulting flora is slightly different. Geological history can be read wherever bedrock is exposed in outcrops and rock-cuts, but it requires some geological training and considerable practice.



**Figure 1:** The pink and grey, banded section of this Pre-Cambrian rockcut is gneiss, which was formed deep in the Earth in a semi-molten state, at the root of the Grenville mountains. The wider pink diagonal band is an igneous intrusion, in which molten material flowed into a fault line in the gneiss and cooled to a pegmatite structure. Since then, a billion years of erosion and crustal uplift brought this rock to the surface and exposed it to the effects of glaciation. Location: Highway 118 near Carnarvon.



**Figure 2:** These two boulders show evidence of water scouring, in which the soil around them was washed away by the discharge of post-glacial Lake Algonquin 10,000 years ago. Water-scoured landscapes are characterized by shallow and very shallow soils like these, and often contain remnant boulders. These two boulders should not be confused with glacial erratics, a term reserved for rocks moved far from their place of origin by ice action. These two are composed of the same material as the underlying bedrock, indicating they were not moved far. Location: Jack's Lake near Apsley.

While it was ice-action that produced most of the forest soils in the area, much of it was modified by water-working during the period of ice melt. Post-glacial rivers carried dirty meltwater out into post-glacial lakes, leaving behind spillway deposits of sands and gravels and lacustrine deposits of silt and clay. Post-glacial Lake Algonquin left the biggest mark when it breached at present-day Kirkfield and discharged across the southern Shield and northern limestone plains, washing much of the soil away. The rock barrens of the southern Shield and the alvars of the northern limestone plains are the result of water-scouring by the Lake Algonquin discharge. Water from the discharge found its way across New York State to the Atlantic via the Mohawk and Hudson Rivers. The St. Lawrence valley was still blocked by ice at the time.



Figure 3: Researchers map the extent of post-glacial lakes interpolating between known beach lines like this, using present-day elevations corrected for variations in isostatic rebound. On the beach, the stone content is rounded by constant wave action and the fines drift off-shore to settle elsewhere. Location: Waverly, south of Midland.

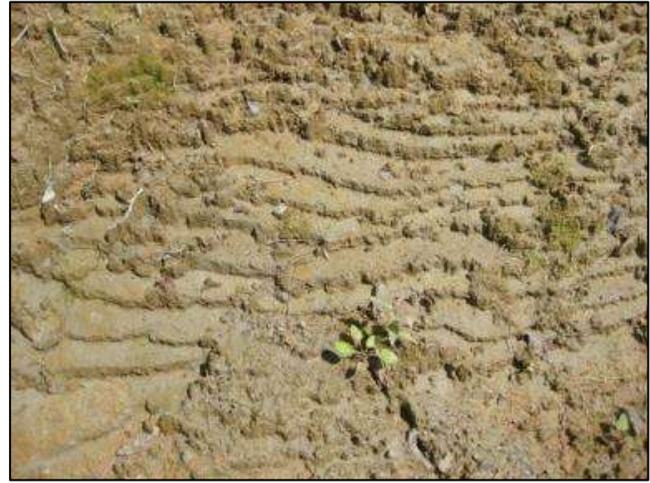


Figure 4: Sediment patterns like this can be found in locations where dirty meltwater flowed out into a post-glacial lake. This is a varved silty clay, in which seasonal variations in water flow and sediment load left bands like the annual rings on a tree. Location: Oakley Township near Vankoughnet.

### Natural Disturbances

Of the natural disturbances, wildfire has been the leading cause of forest destruction and, at the same time, the essential ingredient for forest renewal. On the Algonquin Dome and southern Shield, the fire species include white pine, red pine, hemlock, red oak, white birch and poplar. These species depend on fire to remove the old forest and eradicate the understory of maple and balsam fir, which would otherwise become the dominant type. The removal of fire from the forest by modern firefighting has far-reaching implications for the Shield country and its natural ecology.

But during the period of settlement and pine logging, more of the southern Shield burned than was natural. Fire was often started by steam locomotive sparks and it often spread from settler's land-clearing fires. There was little concern in the early days and fire-fighting agencies were not organized until well into the 20th century. The last big fire occurred in 1949, when 15,000 acres of old burn burned again, south of Haliburton.



Figure 5: Map showing the extent of forest fires on the Shield country south of Minden, Haliburton and Bancroft in 1913. (From C.D. Howe and J.H. White, Trent Watershed Survey, The Bryant Press, Toronto, Ontario, 1913.)



Figures 6 and 7: The fire-charred remains on the left is a stump that was cut before it burned; the one on the right is a chicot that burned standing. (It makes a difference to the succeeding stand if it was logged first.) Both are white pine and both burned over a century ago. Locations: Jack's Lake near Apsley (left) and Stanhope Township near Minden (right).

It is possible to date the age of fire by dating any coppice-origin trees that may be found in the stand. Sprouting from the root collar of top-killed trees would have occurred in the year of the burn or the year following, making it easy to determine the date by counting the rings on the now-mature tree. Red oak are especially suitable for this, as they are a common species in old burns and coppice oak are easy to identify by their multiple stems. It is necessary to repeat the aging process until a clear pattern has emerged. Trees with ring shake, star-heart and heart rot should be avoided.



Figure 8 (left): The red oak Siamese triplets on the left are of the type that make aging old burns easy. These trees would have sprouted right after the fire and their age will accurately reflect the year of the burn. The space between the three trees is where the parent tree stood.

Figure 9 (below): This stump shows a second fire scar, 20 years after the first. Trees with heart rot are difficult to age using an increment borer but easy with a chainsaw.





Figure 10: Evidence of early logging in the form of old stumps is easy to find but hard to age. Yellow birch cannot establish on a leaf litter but seedlings are often found on old rotting stumps like this one.



Figure 11: The stump will eventually rot away completely, leaving a "stilted" yellow birch as the only clue of the logging that took place. Because the birch does not reflect the year of logging, witness trees have to be used instead.



Figure 12: In this case, a 300-year-old hemlock witness tree was used to determine the date of early pine logging high on the Algonquin Dome. Its annual rings showed that the logging had taken place in 1868 and that the stand of hemlock and pine had been 150 years old at the time. The Land Registry Office showed that the property had belonged to the Canadian Land and Emigration Company at the time and records belonging to the Boyd Lumber Company showed that the property was under licence to them. Presumably, the logs from this tree were water-driven to the company's sawmill in Bobcaygeon, 150 km away.



Figure 13 (above): Trees with logging injuries such as this can be used to date the year of logging. The effects of the injury can sometimes be seen in the annual ring following occurrence, and the time since occurrence can be determined by a subsequent ring count. This can be difficult and is not always precise. Boring too close to the wound won't give you an accurate count, as the tree took time to cover the full extent of the injury. Boring too far away won't let the injury show. It may take several borings to get it just right and, even then, multiple samples are necessary to corroborate the result.

Figure 14 (below): Modern harvesters are designed to minimize logging damage and injured trees can be hard to find. In that case, the year of logging can be determined by the "release" shown on the annual rings of residual trees in the years following thinning. Again, multiple samples are necessary to show a pattern.



**References Cited**

Howe, C.D. and J.H. White. *Trent Watershed Survey*. (Toronto: The Bryant Press, 1913).

# The Shantymen

By Ken Plourde

**Author's Note:** The material in this essay came mostly from the centennial history of Haliburton<sup>1</sup>, the history of the Haliburton Mill Reserve Site<sup>2</sup> and my many years of working with and talking to old-time horse loggers across Canada.

When I attended high school in Haliburton in the early '50's there was a sawmill on the river right in the middle of town! With my background living near sawmills in such remote parts of Northern Ontario, as McInnis Siding, Nighthawk Lake, and the like, and the fact that a new sawmill was being built at Kenesis Lake, I was surprised to see one on the Drag River right in the centre of town. The mill was owned by a family named Bailey, and Lois Bailey attended high school at the same time that I was there. Lois was a couple of years ahead of me. She knew how to scale logs and the logging business, while most of my school friends did not know one end of a sawmill from the other. The site of this sawmill had a storied history, which played a large part in the development of Haliburton and surrounding area.

In the early days of the development of the town of Haliburton, a site for a mill was reserved alongside the river and it was called The Mill Reserve. Different sawmills have been built on this site; the first mill, along with a dam, was owned by Lucas and Ritchie, and officially opened on Dec. 18, 1864. This sawmill was bought by the Canadian Land and Emigration Company, which operated it from the 1870's to 1892. Wm Laking bought the land and mill in 1903, and rebuilt the dam and sawmill. The Laking mill site was converted into a lumberyard and store in 1957 by Bill Emmerson (who had married Lois Bailey) in partnership after the sawmilling industry began to decline. The store remains there to this day.

The men who worked in the lumber camps when these sawmills were first opened in the 1800s were called shantymen. The shantymen had come to central Ontario in pursuit of the magnificent white pine that predominated over this whole region: Peterborough, Harburn Township, Fenlon Falls, Bobcaygeon, Trenton, and the Georgian Bay. This timber also furnished numerous sawmills on the Spanish River, French River, as well as other tributaries to Georgian Bay. Similar harvesting regions dotted the map, particularly on the Ottawa River system, as word spread of the rich timber resource.

Indeed, the writer's great grandfather emigrated from Quebec to the Lindsay-Victoria Road area, and built a sawmill near Kirkfield around 1886, to take advantage of this rich resource. The family sawmill tradition continued through two more generations, until the writer strayed to the forestry-timber harvesting aspect, breaking a tradition and four generations of sawmilling.

## The Shanties

The shantymen were loggers who harvested and transported the timber to mills, and their unique dwellings were known as shanties.

The shanties that sprung up across southern Ontario were similar fashion to those in Quebec, the Maritimes and Michigan: logging the enormous white pine stands being the incentive. The timber industry in Harburn and Haliburton area had a similar development.

Each shanty had a crew of about 50 men, predominantly French Canadians and Irishmen. Square timbers were hewn by five-man gangs, which selected the best trees and cut them into sections from 12 to 16 feet. Five logs per tree were an average, and 75 logs were a good day's production for a five-man gang. Sawlogs needed to be a minimum of 14 inches at the top; straight, and sound, so only about a third of the trees in the cut area qualified.



Typical logging shanty with square hole in roof for smoke to escape. Photograph is by Charles McNamara, from Archives of Ontario.

<sup>1</sup> Ronald J. Curry (Compiler), *Centennial: Haliburton Village, 1864-1974, Haliburton County, 1874-1974*, (Haliburton: Ronald J. Curry and Rotary Club of Haliburton, 1975). pp. 134.

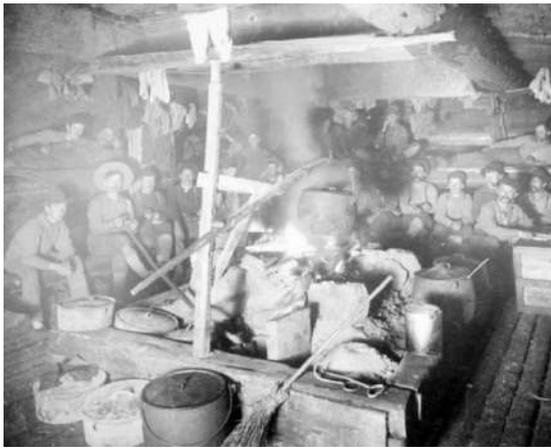
<sup>2</sup> Kim Emmerson (Compiler), *The Mill Reserve, A Part of Haliburton History*, (no publisher, no date). This booklet contains excerpts and information from several books, newspaper articles and interviews with local historians on the history of the development of the Mill Reserve Site and the municipality of Haliburton and surrounding area.

In addition to the 20 men producing sawlogs, another 15 men were needed to cut trails and roads for the horses and oxen to get the timber to a stream or railway.

The typical shanty was about 40 feet square, with dovetail pine logs forming the six-foot walls. On top of the walls there was moss on the inside, and the shanty was plastered with mud or clay on the outside. A large opening of about 8 foot square was left in the ceiling to accommodate a wooden tapered chimney about six feet high.

The fireplace or camboose was made of sand and stone, and stood in the center of the shanty. In many cases, a floor of logs was included, but often not. A large door, about five feet square, was built, and two walls held the sleeping berths for the crew. The other end was reserved for the foreman, clerk, and cook. A stable was built in the same rough way, and held about 10 teams of horses. The camp was completed with a storehouse and granary.

One of the downsides to this type of shanty was that it required a large amount of wood to heat in winter. One blanket was issued to each man, who slept with his clothes on. Pork and beans was the fare provided, which the men often supplemented with game and fish. The shanties were supplied over the winter by local farmers.



Interior of a logging shanty showing the camboose; the men are waiting for dinner. Photograph is by W.H. Harmer, from the National Archives of Canada.

The shanties closed in spring, and logging would stop until the following September, when road making and stream improvements, such as dams and piers were completed. When once again snow depths became sufficient, and frozen ground permitted, the hauling of logs to rivers would begin. In March, the river drives would be the focus as rivers reached peak flooding.

Many unique structures were built, such as dams and flumes, to get the logs to the final body of water for delivery to the mill. Boats and scows were also built as needed. The alligator steamboat was extremely valuable in situations where towing of logs through a canal was required.

The shanties had pretty much disappeared by the time the writer lived in Haliburton, and only a few remnants were left of the dams and improvements for timber transport. As everything was made of wood, time has erased the story, except for small amounts of steel and concrete that hikers and developers chance by today.

## Bibliography

- Curry, Ronald J. (Compiler). *Centennial: Haliburton Village, 1864-1974, Haliburton County, 1874-1974*. Haliburton: Ronald J. Curry and Rotary Club of Haliburton, 1975. pp. 134.
- Emmerson, Kim (Compiler). *The Mill Reserve, A Part of Haliburton History*. (no publisher, no date). This booklet can be accessed here: [http://www.castle.ca/downloads/Emmerson\\_TheMillReserve.pdf](http://www.castle.ca/downloads/Emmerson_TheMillReserve.pdf). Accessed May 12, 2014.

## Further Readings on Shanties and Shantymen

**Note:** Shanties and Shantymen played a huge role in Canada's and Ontario's economic and social history. There is considerable information available on many aspects of their life and role in society. Below are a several references for those readers who may be interested in pursuing further reading on this topic.

### Books

- Adams, Peter and Bobbie Kalman. *Early Loggers and the Sawmill*. St. Catherines: Crabtree Publishing Company, 1981. 64 pp.
- Bedore, Bernie. *The Shanty, A Story from the Ottawa Valley of Canada*. Arnprior: Mufferaw Enterprises, 1963. 57 pp.
- Craven, Paul. *Labouring Lives: Work and Workers in Nineteenth-Century Ontario*. Toronto: University of Toronto Press, 1995. 622 pp.
- Freeman, Bill. *Shantymen of Cache Lake*; Bain Series. Toronto: James Lorimer, 1975. 206 pp.
- Gordon, Ralph. *The Man from Glengarry*. Toronto: New Canadian Library, 2009. 424 pp. (Originally published in 1901 under Gordon's pseudonym Connor.) The 1901 version can be found online at: [http://www.gutenberg.org/files/3287/3287-h/3287-h.htm#link2H\\_4\\_0003](http://www.gutenberg.org/files/3287/3287-h/3287-h.htm#link2H_4_0003). Accessed May 11, 2014.
- Grant, George Munro (ed). *Picturesque Canada: The Country as it was and is, Volume One*. Toronto; Belden Bros, 1882. 440 p. Can be accessed here: [https://archive.org/details/cihm\\_07692](https://archive.org/details/cihm_07692). Accessed May 11, 2014.
- Lee, David. *Lumber Kings and Shantymen: Logging and Lumbering in the Ottawa Valley in the 19th Century*. Toronto: James Lorimer and Company, 2006. 280 pp.
- MacKay, Donald. *The Lumberjacks*. Toronto: McGraw-Hill Ryerson, 1978 (3<sup>rd</sup> and latest edition is 2007). 320 pp.

- Oxley, J. Macdonald. *The Young Woodsman, Or Life in the Forests of Canada*. London, T. Nelson and Sons, 1895. 100 pp. Can be found online at: <http://scans.library.utoronto.ca/pdf/3/37/youngwoodsmanorl00oxleuoft/youngwoodsmanorl00oxleuoft.pdf>. Accessed May 11, 2014.
- Leach, Rusty. "Chapter 15: Sing and be Happy". In *Tallying the Tales of the Old Timers* by Joan Finigan. Burnstown: General Store Publishing, 1998. pp. 175-184. Part of this chapter can be found online here: [http://books.google.ca/books?id=BnBbjOKJ98gC&pg=PA175&lpg=PA175&dq=Leach,+Rusty.+Upper+Ottawa+Valley+Shanty+Songs+and+Recollections,&source=bl&ots=gT-CgQgXbF&sig=wcpRaLYMnO-hGvfeEDqt-jLT-2i&hl=en&sa=X&ei=hZNYU93iMZWjyASH\\_4KgCA&ved=0CCgQ6AEwAA#v=onepage&q=Leach%2C%20Rusty.%20Upper%20Ottawa%20Valley%20Shanty%20Songs%20and%20Recollections%2C&f=false](http://books.google.ca/books?id=BnBbjOKJ98gC&pg=PA175&lpg=PA175&dq=Leach,+Rusty.+Upper+Ottawa+Valley+Shanty+Songs+and+Recollections,&source=bl&ots=gT-CgQgXbF&sig=wcpRaLYMnO-hGvfeEDqt-jLT-2i&hl=en&sa=X&ei=hZNYU93iMZWjyASH_4KgCA&ved=0CCgQ6AEwAA#v=onepage&q=Leach%2C%20Rusty.%20Upper%20Ottawa%20Valley%20Shanty%20Songs%20and%20Recollections%2C&f=false). Accessed May 12, 2014.
- MacDonald, J.E. *Shantymen and Sodbusters: An Account of Logging and Settlement in Kirkwood Township, 1869-1928*. Sault Ste Marie: Self Published, 1972. pp. 134.
- Radforth, Ian. "The Shantymen" in *Labouring Lives: Workers: Work and Workers in Nineteenth-Century Ontario*. Toronto: University of Toronto Press: Toronto, 1995. Pp. 204.
- Thompson, George S. *Up To Date or The Life Of A Lumberman*. Peterborough: Times Print Company, 1895. 211 pp. Can be found online at: [https://archive.org/details/cihm\\_25164](https://archive.org/details/cihm_25164). Accessed May 11, 2014.

## Articles

- Speer, Christina. *The Ottawa Valley: The Camboose Shanty*. Ottawa: National Museum of Man, 1982. 143 pp.
- MacKay, Donald. The Canadian Logging Frontier. *Jour. For. Hist.* 1979 (23:1): 4-17.
- Conlin, Joseph R. A social history of food in logging camps. *Jour. For. Hist.* 1979 (23:4) 164-179.
- CURTIS, Chris. *Shanty Life in the Kawarthas, 1850-1855*. Material Culture Review / Revue de la culture matérielle, [S.l.], jun. 1981. ISSN 1927-9264. Available at: <http://journals.hil.unb.ca/index.php/MCR/article/view/17076/22910>. Accessed May 12, 2014.
- Anon. The Evolution Of The Lumber Camp; *Huntsville Forester*. Metroland Media; Muskoka Region.com, June 30, 2006. This article can be accessed here: <http://www.muskokaregion.com/news-story/3612890-the-evolution-of-the-lumber-camp/>. Accessed May 11, 2014,
- Canadian Illustrated News: *Images in the News: 1869-1883*. Published by George Desbarats, Montreal. Contains six images of shanties in the Ottawa Valley Region by various artists. Can be accessed here: <http://www.collectionscanada.gc.ca/databases/cin/index-e.html?PHPSESSID=ujus97i72ehf4ebh3rjummsu14>. Accessed May 11, 2014.
- Leach, Rusty. *The Rusty Leach Collection of Shanty Songs and Recollections of the Upper Ottawa Valley*. Shawville: Dickson Enterprises, 1984.
- Osgoode Township Historical Society and Museum. Rivermen, Shantymen and Lumberjacks. *Newsletter* Vol XXI 4, 1994 p1. Can be accessed here: <http://www.osgoodemuseum.ca/download.php?id=51>. Accessed May 12, 2014.

## Audio

- Fowke, Edith. *Lumbering Songs from the Ontario Shanties: Collected by Edith Fowke*, Monograph Series. Folkways Ethnic Library, FM 4052, 1961. These songs can be heard here: <https://archive.org/details/LumberingSongsFromTheOntarioShanties>. Accessed May 12, 2014.
- Wakami Wailers. *The Last of the White Pine Loggers*, 1985. And, *River Through the Pines*, 1999. <http://www.wakamiwailers.com/albums.html>. Accessed May 12, 2014.

## Internet Material

- Bytown Museum, *The Timber Days*. <http://www.bytownmuseum.com/en/timber-days.html>. Accessed May 12, 2014.
- Canadian Encyclopedia: *Shanty*. <http://www.thecanadianencyclopedia.ca/en/article/shanty/>. Accessed May 12, 2014.
- Canadian History, *Growth of the Canadian Forest Industry, The Shantymen*. <http://nides.bc.ca/Assignments/CanadaForests/Unit2/ForestryIndustryHistory.htm>. Accessed May 14, 2014.
- Canadian Museum of History; *Canada Hall; The Timber Trade*. <http://www.historymuseum.ca/cmhc/exhibitions/hist/canp1/ca14eng.shtml>. Accessed May 12, 2014.
- Egan, Kelly. *Of Lumberjacks and Exploding Sawdust; A Review of David Lee's Book – Lumber Kings and Shantymen*. The Ottawa Citizen via Canada.com. nd. [http://www.canada.com/story\\_print.html?id=069d75b7-43cc-4e32-a4d3-021953f0a729&sponsor=](http://www.canada.com/story_print.html?id=069d75b7-43cc-4e32-a4d3-021953f0a729&sponsor=). Accessed May 12, 2014.
- Fowke, Edith. *Anglo-Canadian Occupational Songs*. *Historic Canada*. 2013. <http://www.thecanadianencyclopedia.com/en/article/anglo-canadian-occupational-songs-emc/index.cfm>. Accessed May 12, 2014.
- Friends of Bonnechere Park. *Feeding the Frontier – Food in Early Canada*. Teachers' Centre. <http://www.museevirtuel-virtualmuseum.ca/edu/ViewLoitLo.do?method=preview&lang=EN&id=274>. Accessed May 12, 2014.
- Graham, Bill. *Shantymen on the Madawaska*. The Township of Greater Madawaska, History, The Madawaska River. <http://www.greatermadawaska.com/tourism/History/TheMadawaskaRiver.php>. Accessed May 12, 2014.
- Noyes, Howard. *Old District Lumber Days*. Page from the Site: A McLaren Migration. [http://david.mclaren.name/lumber\\_days.htm](http://david.mclaren.name/lumber_days.htm). Accessed May 12, 2014.
- Ottawa River, Section 2.7.2 Description of the Timber Industry (Lifestyle at the Lumber Camps); page 97. <http://ottawariver.org/pdf/09-ch2-7.pdf>. Accessed May 12, 2014.
- Ottawa Workers Heritage Museum. *Where the Tall Timbers Grew: Lumbering in the Ottawa Valley, 1840-Present; Shanty Life; Shantymen*. [http://whc-cpo.ca/lumber\\_e.html](http://whc-cpo.ca/lumber_e.html). Accessed May 12, 2014.
- Outaouais Forest History; 1760-1867; *The Square Timber Era; Vignette B5 - The Camboose Shanty*. [http://dchp.ca/DCHP-1/entries/view/shanty%20\(n.\)](http://dchp.ca/DCHP-1/entries/view/shanty%20(n.)). Accessed May 12, 2014.
- Shanty Songs. <http://mudcat.org/thread.cfm?threadid=153440>. Accessed May 12, 2014.
- Shantymen on the Madawaska. <http://www.greatermadawaska.com/tourism/History/TheMadawaskaRiver.php#three>. Accessed May 12, 2014.

# The Forests of Kent County

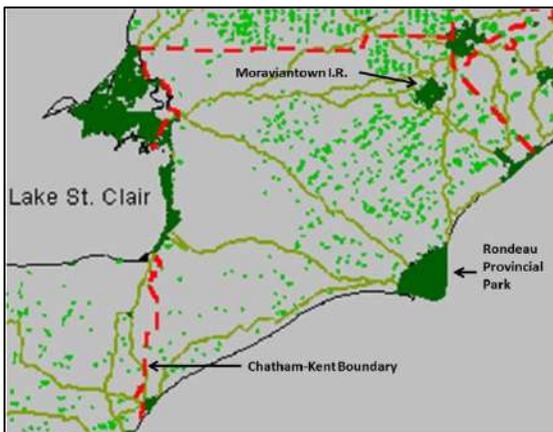
By John Bacher

Kent County (now the consolidated municipality of Chatham-Kent), which was predominately forest in pre-settlement times, is now the most deforested non-urban area in Canada, with only 4.5 per cent forest cover. Much of the area was originally swamp forest, which was extensively tile-drained over the past century to expand land available for farming. Unlike other parts of southern Ontario outside of the Canadian Shield, reforestation efforts in place since 1961 have only slowed the rate of decrease in forest cover. The 1966 survey by the Lower Thames Conservation Authority (LTCA) showed 6.7 per cent forest cover. The current forest area represents a decline of close to forty per cent since that survey.<sup>1</sup>

Kent County forests accounted for 80 per cent of its landscape in 1851, predominately swamp wetlands. Coastal areas had rare dune habitats, as well as bluffs, sand beaches and extensive marshes at Rondeau Bay and Lake St. Clair, some of which remain today. Such ecosystems, however, and scattered prairies and thickets were tiny except for a large swath of marshes along what is now the canalized Thames River. These marshes and prairies vanished even more heavily than forests in Kent County because of drainage and use for agriculture.<sup>2</sup>



Chatham Kent is outlined in red in the context of southwestern Ontario; green is forest cover. Background image is from University of Maryland's site "Global Forest Change" (<http://earthenginepartners.appspot.com/science-2013-global-forest>).



Map of Chatham-Kent showing two main concentrations of forested land (from *The Big Picture, Carolinian Canada* (<https://caroliniancanada.ca/about>)).

The 4.5 per cent forest cover for Kent County represents 11,329 hectares of forests. Outside of Rondeau and Wheatley Provincial Parks and the Crown lands of the Moravian First Nation there were only 9,532 hectares of forests on privately owned land in 2010. This amounts to 3.7 per cent of the landscape of Kent County. Of this total, 300 hectares is in various forms of conservationist ownership consisting of five parcels owned by Chatham-Kent, one by the Nature Conservancy of Canada and seven owned by the LTCA.<sup>3 4 5</sup>

That Kent County's forests are approximately seventy per cent privately owned and thirty per cent in conservation ownership is not unusual in southern Ontario. It is also typical of Indian Reservation lands to have more forest cover because of a system of forest wardens paid to enforce regulations similar to current tree-by laws initiated in the 19th century, when highly forested native areas were under threat from timber poachers.<sup>6</sup>

Nor is it unusual that in 1950 only 10 per cent of Kent County's land was in forest cover. In most of the arable land areas in the province, forest cover

<sup>1</sup> Chatham-Kent Department of Parks, Cemeteries and Horticulture, *Trees Forests and Woodlots: A Review of the Literature*, (Chatham: The Municipality of Chatham-Kent, July 2013), 1-15.

<sup>2</sup> Chatham-Kent Department of Parks, Cemeteries and Horticulture, 1-15.

<sup>3</sup> Chatham-Kent Department of Parks, Cemeteries and Horticulture, 10-15.

<sup>4</sup> Lower Thames Conservation Authority, *2012 Chatham Kent Greening Strategy Update*, (Chatham: Municipality of Chatham-Kent, 2012), <http://www.chatham-kent.ca/Council/CouncilMeetings/2012/Documents/April/Apr%2016%2017e.pdf>, accessed April 8, 2014.

<sup>5</sup> Personal communication, Tom Beaton, Manager of Parks, Cemeteries and Horticulture, Chatham-Kent, Sept. 3, 2013.

<sup>6</sup> Edward S. Rogers, "The Algonquian Farmers of Southern Ontario, 1830-1945," in Edward S. Rogers and Donald B. Smith eds., *Aboriginal Ontario: Historical Perspectives on The First Nations*, (Toronto: Dundurn Press, 1994), 122-144. Having full-time paid forest wardens was the norm in Ontario First Nations communities in the late 19<sup>th</sup> century.

levels had decreased to small percentages. In similar farmland areas such as nearby Essex County, conservation authority reforestation efforts have resulted in a doubling of its forest cover to 7.5 per cent.<sup>7</sup>

The contrast between Essex's expanding forests and those of Kent County shows the importance of cultural and economic factors and conservationist leadership. In both counties tree bylaws that prohibit the clear cutting of forests have not yet been enacted. In both areas, conservation authorities were slow in being formed. There is considerable antipathy in Kent County to enacting a tree bylaw. This was shown recently in a public consultation session over the proposed new tree bylaw where many people spoke against it.<sup>8</sup>

Much of the forests in Kent County are located on the Moraviantown First Nation lands. Forest cover in this 13 km<sup>2</sup> Reserve of about 500 people is comparable to that in the two provincial parks and much smaller conservation areas, municipal forests and a single Nature Conservancy of Canada property. This situation is roughly comparable to other situations in Carolinian Canada. Walpole Island Reserve, for instance, accounts for most of the remnant natural areas in Lambton County and Six Nations. What makes the situation so revealing is the unusual history of this community.

Moraviantown has much in common with many of the native communities located in the Carolinian forest zone. Its residents and the other five hundred band members who live off-reserve are descended from those who fled here from loyalty to the Crown in both the War of 1812 and the American Revolution. (Most of Walpole Island's residents came across the St. Clair River from Michigan, the Oneida of Southwold and the Iroquois of Six Nations came from the Finger Lakes area). What is different, however, is that although they did display remarkable success in maintaining their native language, the Delawares of Moraviantown are usually seen as epitomizing a community that was highly acculturated to European ways. Unlike other native communities in this area, they did not come to Upper Canada from the United States as military allies of the Crown. They were a devout pacifist community shaped by the Christian Moravian faith. They came to Canada to escape from genocidal attacks by militant frontiersmen. By their homes, dress and way of life they appeared to be indistinguishable from their pioneer neighbours, and, following the American Revolution, became the first farmers of Kent County.<sup>9</sup>

Despite superficial similarities and extensive inter-marriage, the island of green of Moraviantown became an affirming and vibrant character of the distinctiveness of Delaware identity, similar to the horse culture for transportation and farming among the Old Order Amish and Mennonites. The community has now become supporters of a tree protection bylaw for Kent County. In supporting the current proposed tree-cutting bylaw, Chief Greg Peters of the Moravian of the Thames First Nation has stated that deforestation of Chatham-Kent has had a negative impact on the community's "aboriginal right to hunt and fish." He has also stated that it contributes to the erosion of silt into the Thames River, harming both subsistence and commercial fish species.<sup>10</sup>



**On the left is J.W. White (black hat) and Bernard Fernow (cloth cap); others unknown.**

In many parts of Ontario, the values of naturalist and environmental groups have played a similar distinctive role in protecting forest cover that complements the attitudes of native Canadians. This was most vividly shown by the Norfolk Field Naturalists, one of whose leaders, Monroe Landon, was critical in making tree bylaws an important instrument of forest protection in Norfolk County in the 1950s. The arrival of such organized expressions of support for forested ecosystems in Kent County is relatively recent. While the Norfolk Naturalists traced their origins to the 1930s, their equivalent in Kent County, the Sydenham Field Naturalists, did not form until 1985. This group has elected to focus on forest acquisition and stewardship. It manages the Wallaceburg Sycamore Woods, a four-hectare older growth forest north of Wallaceburg. It has not taken a stand on the proposed tree protection bylaw for Chatham Kent.<sup>11</sup>

Apart from the ability of the Delaware to maintain a way of life that respected forests, the first step towards forest conservation in Kent County was the establishment of Rondeau Provincial Park in 1894. It was long recognized by Edmund Zavitz, the pioneer of forest protection in Ontario, as providing a basically intact example of a Carolinian ecosystem. He delighted in photographing its forest giants.<sup>12</sup>

<sup>7</sup> Essex Conservation Authority, *Strategic Plan, 2011*, [http://erca.org/wp-content/uploads/2013/01/strategic\\_plan\\_2011.pdf](http://erca.org/wp-content/uploads/2013/01/strategic_plan_2011.pdf), accessed April 3, 2014.

<sup>8</sup> Brian Boyle and Associates, *Sustainable Forest Cover in Chatham-Kent, Municipality of Chatham-Kent*, (Chatham: Municipality of Chatham-Kent, 2013) 73, 76, <http://www.chatham-kent.ca/SiteCollectionDocuments/Parks%20and%20Recreation/Community%20Parks/Forest%20Cover%20in%20Chatham-Kent/Final%20Report%20July%202013.pdf>, accessed April 8, 2014.

<sup>9</sup> Ives Goddard, "Delaware", in Bruce Trigger ed., *Handbook of North American Indians, Volume 15, Northeast*, (Washington: Smithsonian Institution, 1978) 213-239.

<sup>10</sup> Chatham-Kent Department of Parks, 25-28.

<sup>11</sup> Sydenham Field Naturalists, "About Us", <http://www.sydenhamfieldnaturalists.ca/index.php/about-us/history>, accessed April 3, 2014.

<sup>12</sup> Edmund Zavitz, *Hardwood Trees with Bark Characteristics* (Toronto: Ontario Department of Lands and Forests, 1959).

The origins of Rondeau Park lay in early decisions made by Upper Canada's first Lieutenant-Governor, Sir John Graves Simcoe, and sensibly continued by his successors. In 1795 he proclaimed the first conservation measure in (what is now) Ontario's history. This measure established a 200-hectare block of the Rondeau peninsula as ordinance land, which could not be sold. A larger 1800-hectare area of the point also remained in Crown ownership. While logging, especially for valuable white pine, less common in Kent County than in the rest of the Carolinian zone, was intensive, agriculture was effectively prohibited, securing the regeneration of the forest by keeping out grazing livestock. The point, as an island of green in a deforested landscape of southwestern Ontario, caused it to become a popular resort area around the time of confederation. What triggered the concerns of Kent County residents about the future of a treasured recreational area was the beginning of grazing of cattle in Rondeau in 1888. The establishment of Algonquin Park in 1893 helped trigger demands for a provincial park in Rondeau since it came during a time of new threats to the forest. For the first time grazing livestock, which had devastated surrounding forests, were being permitted to roam in Rondeau. This situation ignited demands for a provincial park, which like Algonquin, would keep out all agricultural activity.

Kent County, Chatham and local townships deluged the provincial government of Premier Oliver Mowat with resolutions urging the establishment of Rondeau Provincial Park. Mowat responded quickly, and on May 4, 1894, the Rondeau Provincial Park bill received royal assent. It established Rondeau as "a public park, reservation and health resort." Park regulations prohibited grazing.<sup>13</sup>

Although Rondeau was quickly rescued from the threat of grazing animals, controversies about logging its giant old growth trees were intense in the early years of the 20th century. Edmund Zavitz quickly got into a tussle with the Minister of Lands, Forests and Mines, Frank Cochrane. Zavitz was rescued from having to cut the giants by popular outrage in Kent County and by press publicity in Toronto generated by Bernard Fernow, Dean of Faculty of Forestry at the University of Toronto. Zavitz became quite familiar with Rondeau in 1908 when he taught dendrology at the University of Toronto where he formed a close friendship with his future assistant, James White. One of the most important impacts on him was an appreciation of how forests provided recreational opportunities. Zavitz stressed this importance in his important 1908 wastelands report, which became an effective blueprint for reversing the desertification of much of Southern Ontario.<sup>14 15 16</sup>

The United Farmers of Ontario (UFO), which swept to power in the 1919 General Election, had a strong base in Kent County, where it elected one of its most effective leaders, Manning Doherty. He became one of Drury's most effective cabinet ministers, serving distinctively with considerable press acclaim as the government's Minister of Agriculture. He was a man with strong business and agricultural interests, eventually becoming Vice-President of the Toronto Stock Exchange. He directed the creation of the Savings Bank of Ontario.<sup>17</sup>

The UFO had rocked Ontario politics by causing farmers, who had in the past sat on the sidelines, to become actively involved in the process, creating the province's most formidable political machine. After its surprise victory, many of its members lost their political passions and went back to their usual pursuits. Doherty and his core group of supporters in the Kent East chapter of the UFO came up with an imaginative way to overcome this case of post-election victory blues. The riding association organized, throughout Doherty's two terms in the legislature (from 1919 to his retirement in provincial politics in 1925), the Howard Councillors-United Farmers picnic, held at Rondeau Park. It was quite successful, annually attracting around 30,000 participants, breaking provincial park attendance records. Gathering together under the towering giants of Rondeau had a therapeutic benefit on the chronically divisive and fractious UFO activist base, contributing to Doherty's re-election in 1923 as well as good results in southwestern Ontario.<sup>18</sup>



On the right is J.H. White (black cap) and Bernard Fernow (cloth cap); others unknown.

While one of the UFO's most effective and principled parliamentarians with an appreciation of forests for public recreation, Doherty also illustrated the different academic approaches to agriculture among the party's political elite. Like his cabinet colleague Drury, Doherty was a graduate of the Ontario Agricultural College (OAC) and a Professor of Agriculture. However, their accomplishments illustrate very different approaches to agriculture from an

<sup>13</sup> Gerald Killan, *Protected Places: A History of Ontario's Provincial Parks*, (Toronto: Queen's Printer, 1993), 16-19.

<sup>14</sup> Edmund J. Zavitz, *Recollections*, (Toronto: Ontario Department of Lands and Forests, 1964), 8.

<sup>15</sup> Killan, 42.

<sup>16</sup> Andrew Denny Rodgers, *Bernard Edward Fernow: A Study in North American Forestry*, (Princeton: Princeton University Press, 1950) 250-300.

<sup>17</sup> Wikipedia contributors, *Manning Doherty*, *Wikipedia, The Free Encyclopedia*, [http://en.wikipedia.org/wiki/Manning\\_Doherty](http://en.wikipedia.org/wiki/Manning_Doherty), accessed September 3, 2013.

<sup>18</sup> Killan, 53.

academic perspective. Although Doherty was an OAC Alumni, in vivid contrast to Drury, who was schooled by his father, Charles, since childhood in the ethic of conservation, he lacked an interest in forest protection. The records of the OAC Experimental Union are quite detailed from the period 1902 to 1912, where Zavitz's career was essentially launched and subsequently recorded. While it lists numerous remarks from Drury, Doherty's name never appears as saying anything, although for part of the period he taught at OAC.<sup>19 20</sup>

One of the conflicts that the Ontario Agriculture College-educated farmer and conservationist, Monroe Landon, had with agricultural policy in Ontario was the Drainage Act and related programs. He was concerned, based on his experience in Norfolk County, that it encouraged the clearance of swamp forests for agriculture. This approach was seen by Landon as a minor irritant in Norfolk County but was the norm of how agriculture developed in Kent County. Almost every stream in Kent County was gradually turned into a municipal drain and forests were cleared away. This process was supervised through a specialized branch of academic agriculture known as agricultural engineering.<sup>21 22 23</sup>

The nature of agriculture in Kent County, shaped by the demands of creating massive drainage canals and draining wetlands, illustrates how its soggy soils were not prone to the problem of desertification, which hit drier soils. There was, however, a major consequence for the radical removal of ninety per cent of forest cover in the county. This was increasingly severe flooding on the Thames River. Floods triggered by deforestation began to be experienced in Kent County by 1868. From then until 1885 a major cause of the devastation caused by the floods was due to logging debris. This logging litter acted as artificial dams. Logging in these years was viewed as a one-time way to clear agricultural lands. After 1885 the timber industry collapsed because there were not enough trees to be cut down to support the industry. Floods continued after this time but no longer involved timbers, staves, saw logs and sawn lumber blockading the river and crashing into structures. The 1868 flood put much of Chatham under several feet of water.<sup>24</sup>

Following the deforestation of the Thames the impact of erosion could be seen by massive sediment loads that changed the river's waters to a "muddy yellow colour." A flood in 1898, which again put most of Chatham under water, also cast the city into darkness. The rising waters knocked out the city's power plant and flooded its gas mains. Flooding along the Thames became more intensive and extreme as deforestation increased, frequently putting Chatham and Thamesville under water. The most severe was the great Thames Flood of 1937. This put all of Thamesville under water and cut off access to the community, except by boat and a railway right of way.<sup>25</sup>

The Thames flood promoted conservation thinking in Kent County and throughout southwestern Ontario. That the devastation was able to have a positive impact in encouraging afforestation was coupled by the fact that it hit when Zavitz, through his position as Chief of the Reforestation Branch of the Department of Lands and Forests, had assigned a dedicated Zone Forester for the region. The forester was Harold Zavitz, nephew of his cousin Charles Zavitz, a devout Quaker and agronomist, had the most difficult mission of the zone foresters. His mission was to promote afforestation in the most deforested areas of the province in Kent, Essex, Elgin and Lambton Counties. One of his few early successes was in securing a farmer's co-operation on Lot 11, Concession 11, of Chatham Township, to become involved in the Demonstration Woodlot program. Here the major success was a demonstration of what could be achieved by protecting a forest from grazing. According to the founding report of the Lower Thames Conservation Authority, this "resulted in a good regeneration layer of maple and beech, which will build up a multi-storied forest in the future."<sup>26</sup>

Harold Zavitz attempted to interest Kent County in a big afforestation project similar to the large 1000-acre tracts that were assembled by counties in other parts of the province. Although initially achieving some interest, tree mortality from changing water levels caused by drainage projects, killed interest in a major land assembly.<sup>27</sup>

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<sup>19</sup> Wikipedia contributors, *Manning Doherty*.

<sup>20</sup> Ontario Sessional Papers, 1902-1912, *Annual Reports of the Ontario College of Agriculture Experimental Union*. Doherty, as an OAC Alumnus, was eligible to take part in the Experimental Union, but said nothing about forest conservation there.

<sup>21</sup> Wikipedia contributors, *Agricultural Engineering*, *Wikipedia, The Free Encyclopedia*, [http://en.wikipedia.org/wiki/Agriculture\\_Engineering](http://en.wikipedia.org/wiki/Agriculture_Engineering), accessed April 7, 2014.

<sup>22</sup> E.C. Drury, *Farmer-Premier*, (Toronto: University of Toronto Press, 1964). Although Drury in his memoirs, "Farmer-Premier", goes into quite minute details about other aspects of agriculture, he is silent on topics such as tile drainage, municipal drains, the law of drainage and the Drainage Act. Other points in his memoirs point out why he lacked zeal for drainage. He liked to hunt for food in his family's forest.

<sup>23</sup> Personal experience of the author who served on the Ontario Drainage Tribunal from 1991-1997 and participated in hearings in Kent County, which gave him familiarity with the impact of agricultural drainage.

<sup>24</sup> Conservation Authorities Branch, *Lower Thames Valley Conservation Report*, (Toronto: Ontario Department of Energy and Resources Management, 1963), 79, 80.

<sup>25</sup> Conservation Authorities Branch, 81, 82.

<sup>26</sup> Conservation Authorities Branch, 34.

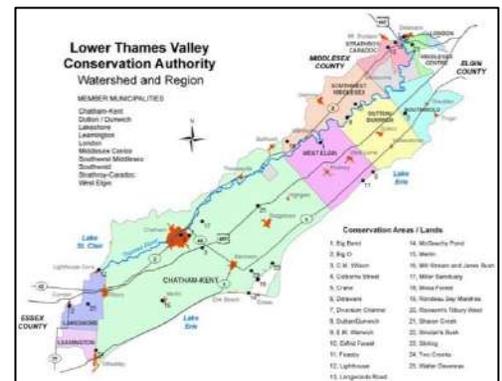
<sup>27</sup> Harold Zavitz, *Brief and Testimony to the Royal Commission on Timber*, Archives of Ontario, RG19-125, B2495319.

Harold's Zavitz's major achievement was to have the province reforest the 100-acre Reynolds Tract, which was purchased by Kent County in 1947. Half of the property had been cleared and tilled and the rest was hawthorn forest, marshy ground and some second-growth forest. All these forests at the time of acquisition were suffering from being used as cattle pasture. In 1957 a total of 94,000 seedlings, that included a mix of coniferous and hardwood species such as maple, basswood, tulip, black walnut and willow, were planted. The plantations were thinned twice. Thinnings, as planned, as well as natural disturbances, have encouraged the natural conversion to a deciduous forest, with native species such as black cherry seeding in. Apart from the loss of 27 acres of the forest to the 401 expressway, the history of the Reynolds Tract has been a success story in afforestation in Kent County. Suppression of cattle grazing has encouraged the emergence of an understory of native plants such as spicebush, ferns and Jack-in-the-pulpit. Buttonbush swamps emerged, which provide excellent wood duck rearing habitat.<sup>28</sup>

The Reynolds Tract marked the beginning of municipal forests in Kent County. The program has grown to five forest tracts accounting for 169 acres (sixty-eight hectares). All but one of these sites is under a management plan by a professional forester. The site not under such a plan is the 11-acre Sycamore Woods managed by the Sydenham Field Naturalists Club. The Club originally helped to acquire the forest, which was slated to be removed for agricultural production.<sup>29 30</sup>

Municipal forestry has assumed an intense political significance in Chatham-Kent. Opponents of a tree-cutting bylaw have claimed that stronger forestry policies rather than such restrictions on private owners is the preferred way to boost forest cover. As a compromise, the municipal council is developing policies to encourage more forest cover, with a plan to trigger a consultation process for a new tree bylaw in a few years if this does not work. Chatham-Kent has developed its own forest extension program to assist private landowners with tree planting and management, implementing over 100 stewardship projects since 2007. Starting with only one acre being planted in 2007, the program created 80 acres of new forests in 2012 through negotiations with landowners, with a total planting of 200,000 trees. One of the most ambitious Chatham-Kent initiatives is a strategy to create a forest along the entire length of the Highway 401, which would be co-ordinated in the design of any future on/off ramps. After three years of negotiations the Ministry of Transportation agreed to a pilot project to have 10,000 trees planted on the north side of the QEW from Highway 401 from Clachan Road to Queen's line.<sup>31</sup>

While securing the first municipal forest in Kent County was Harold Zavitz's greatest triumph, his darkest days and worst headaches concerned the long delays in applying the Conservation Authorities Act to the lower half of the Thames watershed. The opposition to this act persisted despite recurring flooding in Kent County that blocked highways, forced farmers to move their families, delayed spring plantings and eroded soil. The failure to create a consolidated Thames River Conservation Authority emerged at a meeting on May 26, 1947, in London, due to the reluctance of members representing the Lower Thames area. In response to this failure, the Upper Thames River Conservation Authority was created on its own on September 18, 1947. In 1948, severe flooding in Chatham occurred as a result of an ice jam at Prairie Siding. This gave the opportunity for the provincial government to use financial leverage to secure the creation of a Lower Thames Conservation Authority. Dana Porter, the Minister of Planning and Development, and a strong supporter of afforestation, made a conditional grant of \$5,000 to the Kent County Flood Committee for the purpose of alleviating ice jamming by the use of an icebreaker. The grant was made on the understanding that the Flood Committee would give leadership to the founding of a Conservation Authority. This led to an attempt in 1959 to create an authority on the Lower Thames, which was defeated. After further petitions, the formation of the LTCA was finally approved at a November 10, 1960, meeting at Thamesville, by a vote in favour of 21 of the 31 municipal delegates present.<sup>32</sup>



Four years after its formation in 1960 the Conservation Authorities Branch completed a plan that called for substantial afforestation in Kent County and enhanced protection for existing forests. The whole thrust of the report was the call for more forest cover for the purposes of soil conservation, wildlife enhancement and recreation. One of the key recommendations of the 1964 survey was "to urge the County of Kent to adopt tree-cutting bylaws to prevent the indiscriminate cutting of woodlots". It pointed out that the other two counties in the watershed, Middlesex and Elgin, already had them. It warned that without the key provision of a diameter

<sup>28</sup> Donald Craig, *Management Strategy for Forested Properties Owned by the Municipality of Chatham-Kent*, (Chatham: Municipality of Chatham-Kent, 2009) 18-30, <http://www.chatham-kent.ca/Council/CouncilMeetings/2012/Documents/April/Apr%2016%2017e.pdf>, accessed April 8, 2014.

<sup>29</sup> Donald Craig, 1-17.

<sup>30</sup> Sydenham Field Naturalists, *History*, <http://www.sydenhamfieldnaturalists.ca/index.php/about-us/history>, accessed April 3, 2014

<sup>31</sup> Lower Thames Conservation Authority, *Chatham Kent Greening Strategy Update*.

<sup>32</sup> A.S.L. Barnes, "Introduction" in Conservation Authorities Branch, *Lower Thames Valley Conservation Report, 1966*, (Toronto: Ontario Department of Lands and Forests, 1966), ii.

limit to prevent clear cutting that the forests of Kent County would be doomed. It stressed that here in “the lower half of the watershed where “cash cropping” is more intense, the woodlots decrease gradually in size and number, and are in the process of gradually being removed.” In addition to recommending protection of existing forests through a Kent County Tree-Cutting bylaw, the 1964 Lower Thames survey urged afforestation of 6,000 acres of forests in the county to be owned and managed by the authority.<sup>33</sup>

The Conservation Authority was able to achieve about one-tenth of this acreage, in eight small forests. The largest of these, the Sinclair’s Bush conservation area, is only 46 hectares. The biggest afforestation the LTCA was able to achieve of its total goal of 11,272 acres was the small 41-hectare Ekrid Forest in Middlesex County. It has not been able to accomplish an afforestation project even of this limited scale in Kent County. Apart from small recreational forests, most of these properties represent creative restoration projects in difficult circumstances and private donations. One of the most creative was turning the 2.8-hectare former Merlin District High School into a naturalization site. A similar area is the 0.48-hectare Colborne Street Conservation Area in Chatham on a former Canadian Pacific Rail line shades McGregor’s Creek.<sup>34</sup>

What was most poignant about the LTCA’s 1966 account of deforestation in Kent County was its description of the lack of any forested recreational parks, away from the Lake Erie shore. It observed that for “an area so much in touch with the main stream of North American life, the Lower Thames Valley is strangely devoid of parks.” It found here, that “the beauty and appeal of natural, wild settings is carefully eradicated”. The report noted that, “Practically all river frontage in the Lower Thames Valley, except road allowances, is only accessible to casual use for recreation by unlawful trespass.” It concluded that the lack of an “adequate recreational area in this region is shocking.”<sup>35</sup>

The LTCA made two proposals for conservation areas in Kent County. One was a 171-acre site in the heavily deforested area west of Chatham, to be called the Jeannettes Creek Conservation area. Another was to expand by 16.5 acres a small 3.5-acre roadside picnic area, which contains a memorial to the Shawnee native chief, Tecumseh, who played a prominent role in the War of 1812. It was proposed to have steps and nature trails to provide “pleasant walks and shady rest spots along the river frontage.”<sup>36</sup>

The only park that the LTCA has been able to create in the heavily deforested area of Kent County west of Essex, is the tiny former Merlin District High School. Most of its forested holdings are concentrated near the Lake Erie shore in the vicinity of Rondeau Park. The principal recreational facility in a rural setting near Chatham is the C.M. Wilson Conservation Area, which is 36 hectares in extent. On this small tract the LTCA has been able to create a campground and a small lake for swimming, sailing and canoeing. The only area, which was originally proposed to create as a conservation area, which was accomplished, was the Big Bend Conservation Area in Middlesex County. It however, is the exception, which illustrates the rule of the heavy pressure of commercial agriculture to restrict conservation land holdings. Here, while 16 hectares were developed for recreation in a former gravel pit, a larger 20-hectare area “is leased out on an annual basis as agricultural land.”<sup>37</sup>

The current study compiled by Chatham-Kent to support a tree bylaw illustrates the harmful health impacts of deforestation contained in the LTCA’s founding studies. It detailed how “Chatham-Kent had the highest rates of hospitalization due to cardiovascular diseases, stroke and chronic obstructive pulmonary disease” in the province. It has the highest death rate for preventable cardiovascular disease. Chatham-Kent was found to have the lowest rate of leisure activity and the highest rate of overweight/obesity in southwestern Ontario. The lack of shade causes recreational trails to be unused. Chatham has been found to be 10 degrees Celsius hotter than Windsor, and rural areas have also been found to be warmer than well-forested parts of southwestern Ontario. The hottest schoolyards in southwestern Ontario have been found in Kent County because of the lack of forest cover.<sup>38</sup>

While Zavitz appreciated the recreational value of forests, his reports generally stressed other criteria for keeping and increasing forest cover, such as stopping desertification, flooding and improving fish habitat. Edmund Zavitz’s massive afforestation efforts

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<sup>33</sup> Conservation Authorities Branch, 30, 34.

<sup>34</sup> The information on the various Conservation Authority areas described in this paragraph comes from the individual descriptions of these areas contained on the Lower Thames Conservation Authority website that can be accessed here: <http://www.lowerthames-conservation.on.ca/conservationlands.html>, accessed April 8, 2014.

<sup>35</sup> Conservation Authorities Branch, 85, 86.

<sup>36</sup> Conservation Authorities Branch, 88, 89.

<sup>37</sup> The information on the various Conservation Authority areas described in this paragraph comes from the individual descriptions of these areas contained on the Lower Thames Conservation Authority website that can be accessed here: <http://www.lowerthames-conservation.on.ca/conservationlands.html>, accessed April 8, 2014.

<sup>38</sup> Chatham-Kent Department of Parks, 15-24.

were not able to bring about a significant increase in forest cover in southern Ontario until existing privately owned forests were protected from clear cutting through local tree cutting bylaws. The reality that Chatham-Kent today has the lowest forest cover in Canada, a jurisdiction without tree by-laws, shows the importance of tree bylaws in sustaining natural areas in areas of productive agricultural land. Zavitz needs to be celebrated not simply as the "father of reforestation" in Ontario, but as a crucial parent of laws to restrict tree cutting on private land.

## References

- Barnes, A.S.L. "Introduction". *Lower Thames Valley Conservation Report, 1966*. Toronto: Ontario Department of Lands and Forests, 1966.
- Chatham-Kent Department of Parks, Cemeteries and Horticulture. *Trees Forests and Woodlots: A Review of the Literature*. 2013. Conservation Authorities Branch. *Lower Thames Valley Conservation Report*. Toronto: Ontario Department of Lands and Forests, 1966.
- Craig, Donald. *Management Strategy for Forested Properties Owned by the Municipality of Chatham-Kent*. Chatham: Municipality of Chatham-Kent, 2009. <http://www.chatham-kent.ca/Council/CouncilMeetings/2012/Documents/April/Apr%2016%2017e.pdf>. Accessed April 8, 2014.
- Drury, E.C. *Farmer-Premier*. Toronto: University of Toronto Press, 1964.
- Essex Conservation Authority. *Strategic Plan, 2011*. [http://erca.org/wp-content/uploads/2013/01/strategic\\_plan\\_2011.pdf](http://erca.org/wp-content/uploads/2013/01/strategic_plan_2011.pdf). Accessed April 3, 2014.
- Brian Boyle and Associates. *Sustainable Forest Cover in Chatham-Kent, July 2013*. Chatham: Municipality of Chatham-Kent, 2013. <http://www.chatham-kent.ca/SiteCollectionDocuments/Parks%20and%20Recreation/Community%20Parks/Forest%20Cover%20in%20Chatham-Kent/Final%20Report%20July%202013.pdf>. Accessed April 8, 2014.
- Goddard, Ives. "Delaware". In Bruce Trigger ed. *Handbook of North American Indians, Volume 15, Northeast*. Washington: Smithsonian Institution, 1978.
- Killan, Gerald . *Protected Places: A History of Ontario's Provincial Parks*. Toronto: Queen's Printer, 1993.
- Lower Thames Conservation Authority, "2012 Chatham Kent Greening Strategy Update". Chatham: Municipality of Chatham-Kent, 2012. <http://www.chatham-kent.ca/Council/CouncilMeetings/2012/Documents/April/Apr%2016%2017e.pdf>. Accessed April 8, 2014.
- Ontario Sessional Papers 1902-1912. *Annual Reports of the Ontario College of Agriculture Experimental Union*.
- Rodgers, Andrew Denny. *Bernard Edward Fernow: A Study in North American Forestry*. Princeton: Princeton University Press, 1950.
- Rogers, Edward S. "The Algonquian Farmers of Southern Ontario, 1830-1945, 122-144. In Edward S. Rogers and Donald B. Smith eds. *Aboriginal Ontario: Historical Perspectives on The First Nations*. Toronto: Dundurn Press, 1994.
- Sydenham Field Naturalists. *History*. <http://www.sydenhamfieldnaturalists.ca/index.php/about-us/history>. Accessed April 3, 2014.
- Wikipedia Contributors. *Agricultural Engineering*, Wikipedia, The Free Encyclopedia. [http://en.wikipedia.org/wiki/Agriculture\\_Engineering](http://en.wikipedia.org/wiki/Agriculture_Engineering). Accessed April 7, 2014.E.C.
- Wikipedia Contributors. *Manning Doherty*, Wikipedia, The Free Encyclopedia. [http://en.wikipedia.org/wiki/Manning\\_Doherty](http://en.wikipedia.org/wiki/Manning_Doherty) . Accessed September 3, 2013.
- Zavitz, Edmund J. *Recollections*. Toronto: Ontario Department of Lands and Forests, 1964.
- Zavitz, Edmund J. *Hardwood Trees with Bark Characteristics*. Toronto: Ontario Department of Lands and Forests, 1959.
- Zavitz, Harold. *Brief and Testimony to the Royal Commission on Timber*. Archives of Ontario, RG19-125, B2495319.

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# Muskoka Mills, Georgian Bay

By Mary Grunstra

Whether it is the mystery of details that we can never know or a fascination with places that history, for one reason or another, has decided will not persist, there is an unmistakable allure to an abandoned town. Of all of Ontario's ghost towns, Muskoka Mills may be one of the least documented but most evocative, with a rich logging history and enduring geographical legacy.

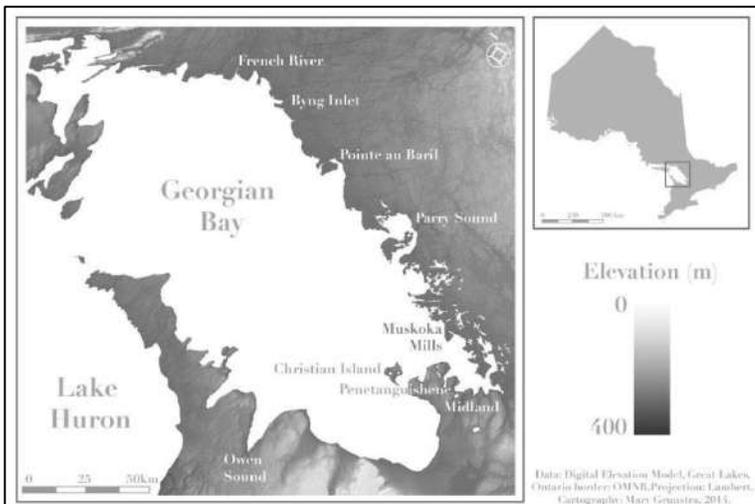


Figure 1. Muskoka Mills, on the eastern shore of Georgian Bay.

Few records remain about the history of Muskoka Mills, and modern maps no longer outline Mill Island where the town was located.<sup>1</sup> The mill's original location is today divided into private land parcels, limiting investigation to exploration by boat. Comprehensive historical documentation exists primarily in local histories that are difficult to obtain, including work by Owen Jones in the Cognashene Cottager Association's annual publications from the 1960s to 1980s, some of which was later reprinted in *Wind, Water, Rock, Sky: The Story of Cognashene, Georgian Bay*. Brief mentions are found in Angus' *A Deo Victoria*, in Meek's biography of mill owner Archibald Hamilton Campbell, Kohl's *Dive Ontario* series, and Murray's *Muskoka and Haliburton, 1615-1875*.

Located at the mouth of the Musquash River where the Muskoka River system empties into Georgian Bay, the historic town of Muskoka Mills was once a thriving village,

one of the largest shoreline communities between Collingwood and Parry Sound (Figures 1 and 2). Accessible only by water, Muskoka Mills' historic infrastructure has remained largely untouched by modern development for over one hundred years, since the town's abandonment in 1895. While the site initially appears indistinguishable from neighbouring stands of red maple and white pine, details soon emerge that hint at the site's significance. Most obvious are the remaining expanses of sawdust, the by-product of the mills, that lie flush with Georgian Bay. Dumped more than a century ago the sawdust still completely fills two former freshwater bays approximately 100 metres wide and 200 metres long. Lining a half kilometre of shoreline are the remnants of sun-bleached docks, composed of hundred-year-old planks piled side by side.

A wooden spillway, used to guide logs down the sixteen-foot drop from the Musquash River into Georgian Bay, is still visible from the water today (Figure 3); its massive timbers stretching hundreds of feet into the Bay. The underwater remains of wooden dams that guided logs down the infamously turbulent river can still be seen at successive sets of rapids. Today the names of these rapids refer directly to Muskoka Mills. Sandy Gray Falls bear the name of the charismatic log driver who drowned breaking a jam on a Sunday morning in June, 1867 (Figure 4<sup>2</sup>).<sup>3</sup> Shingle Mill Dam describes the water-powered shingle mill that was located at the river's second set of falls.<sup>4</sup>

Submerged beyond the first set of rapids on the Musquash is the Ontario, one of three of the mill's local shipwrecks.<sup>5</sup> Further upriver, wooden graves mark the burial sites of drowned log drivers. Finally, where the village once stood, a

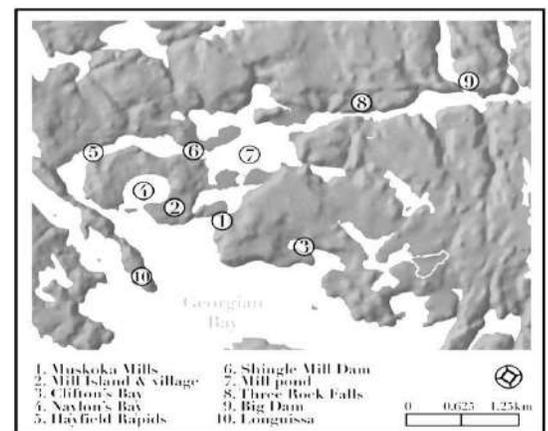


Figure 2. The layout of Muskoka Mills, circa 1880-90.

<sup>1</sup> Correspondence concerning sale of land, including the land survey by J. Sing showing the original location of Muskoka Mills, 1905, RG10, Vol 2861, National Archives of Canada.

<sup>2</sup> Anonymous, photograph from personal family collection.

<sup>3</sup> James P. Barry, *Georgian Bay, the Sixth Great Lake* (Toronto: Clarke, Irwin & Company Limited, 1968), p 86.

<sup>4</sup> Owen Jones, "The Mills at the Mouth of the Musquash River," *Cognashene Cottager*, Summer 1980: pp 58-67.

<sup>5</sup> Cris Kohl, *Dive Ontario! The Guide to Shipwrecks and Scuba Diving* (Chatham: Cris Kohl, 1995), p. 285; Floren Russell and Andrea Gutsche, *Ghosts of the Bay: A Guide to the History of Georgian Bay* (Toronto: Lynx Images, Inc., 1994), pp 74-9.

handful of apple trees, dwarfed today by maple and birch, hint of the lives of settlers who tried to make a home of Muskoka Mills.

Consisting at its height of a post office, school, church, hotel, village, 200 year-round employees, and hundreds of feet of shoreline dock, the town of Muskoka Mills was founded on the local logging industry, which saw white pine driven down a maze of interconnected rivers to Mill Island on Georgian Bay. Here five mills operated, including a sawmill, timber mill, shingle mill, and two lathe mills.<sup>6</sup>

The first record of Muskoka Mills dates to 1853, only three years after the Robinson Treaty of 1850 lay claim to First Nations land along the eastern coast of Georgian Bay and opened it for settlement, and four years after the 1849 Crown Timber Act established stumpage and rents in Ontario.<sup>7</sup> The first mill was built in 1853 at the second set of rapids by William Basil Hamilton, a fur trader from Penetanguishene and later mayor of Collingwood. A small village was also noted in this year, though some documentation suggests that early employees were housed in a large houseboat typical of the era.<sup>8</sup>

The mill was purchased by Charles Kelly in 1858, who expanded the timber limits and constructed a sawmill, wharf, and staff buildings.<sup>9</sup> A timber mill was added to the business in the 1860s. In 1871, four mills, including a shingle mill and lathe mill, were operational. By this year 15 million board feet were produced a year, and the mill employed 125 workers under new owners Dodge and Hughson.<sup>10</sup> To raise the water level in the millpond, where logs were held in booms in preparation for the sawmill, Shingle Mill Dam was constructed in 1877. The raised water levels created a second river opening on the east side of the Mill Island, where the Musquash River dropped sixteen feet and emptied into Georgian Bay.<sup>11</sup> By 1879, one year after the Muskoka Mill & Lumber Co. was officially established by Hughson, Campbell, and Huntoon, a new four-storey lumber mill was built that housed circular saws, gang saws, and a band saw. It opened directly onto Georgian Bay. Figure 5 shows the ownership of the mill over time.

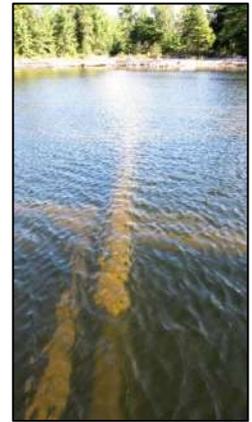


Fig 3. The underwater spillways can still be seen today.



Figure 4. A photograph of Sandy Gray Falls in low water, two decades after the mills were abandoned.

During the log driving season, the new mill's capacity allowed for a "solid mass of moving timber" to travel downriver from where wood was harvested in the bush throughout the winter.<sup>12</sup> The flow of the Musquash could be dramatically increased through the closure of a neighbouring dam situated at the headwaters of the Moon River, diverting over 90% of the Moon's water down the Musquash.<sup>13</sup> The volume of water moving into the Musquash during these drives was immense. Logs were escorted through the myriad of falls and rapids by log drivers who travelled either on foot or in pointers, double-pointed boats that moved nimbly among moving logs as they travelled downstream. Logs that became stuck were quickly freed before jams built up.<sup>14</sup> Once downriver, logs were held in the river or the millpond until ready to be sent to the mill, held in place by large booms.<sup>15</sup>

<sup>6</sup> Jennifer David, ed., *Wind, Water, Rock and Sky : The Story of Cognashene, Georgian Bay* (Toronto: Cognashene Book Corp, 1997), p. 35.

<sup>7</sup> Ken Armson, *Ontario Forests: A Historical Perspective* (Toronto: Fitzhenry & Whiteside, 2001), p. 112; Monique M. Ross, "A History of Forest Legislation in Canada, 1867-1996," *Canadian Institute of Resources Law*, March, 1997, p. 4.

<sup>8</sup> Jones, "The Mills," pp 58-67; Florence B. Murray, *Muskoka and Haliburton 1615-1875: A Collection of Documents* (Toronto: Champlain Society for the Government of Ontario, 1963), p. xciv.

<sup>9</sup> Jones, "The Mills," p. 62.

<sup>10</sup> James T. Angus, *A Deo Victoria: The Story of the Georgian Bay Lumber Company, 1871-1942*, (Thunder Bay: Severn Publications Limited, 1990), p. 37.

<sup>11</sup> Jones, "The Mills," pp 58-67.

<sup>12</sup> Donald P. Scott, "The Last Log-run On the Muskosh River," *Cognashene Cottager*, 1967: p. 76.

<sup>13</sup> Jones, "The Mills," pp 58-67.

<sup>14</sup> Scott, "The Last Log-run," p. 76.

<sup>15</sup> Arthur L. Norton, "The Nortons of Muskoka Mills," *Cognashene Cottager*, 1967: p. 53.

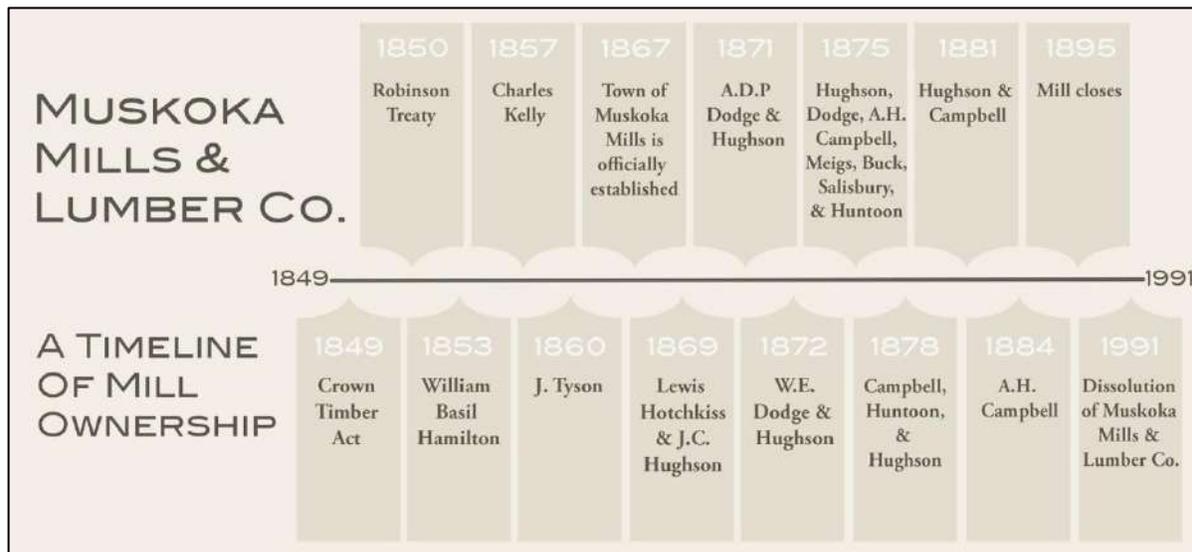


Figure 5. A timeline of owners of the Muskoka Mill & Lumber Company. Ownership changed hands frequently, due in part to volatile US lumber markets that heavily influenced the viability of logging operations at the mill.

The new mill was furnished with two long conveyor belts that transported mountainous volumes of sawdust to Clifton Bay in the east and Naylor's Bay to the west (Figure 6<sup>16</sup>).<sup>17</sup> So extensive was this deposition that in 1884, the province fined Muskoka Mills & Lumber Co. for environmental negligence and for dumping sawdust into aquatic spawning grounds.<sup>18</sup> Other debris left over from the mill was burned day and night in one of the era's iconic refuse piles atop a local rocky cliff, its smoke visible for miles.<sup>19</sup>



Figure 6. The new four-storey mill was constructed in 1878 to 1879 at the man-made opening of the Musquash River on the eastern side of the Mill Island. Conveyors, which can be seen in this image, carried sawdust from the mill to the two sawdust bays on either side of the mill.

The mills operated in all seasons except winter, when loggers moved upriver to cut wood in the timber limits, sending logs down the Musquash in spring when flow was high.<sup>20</sup> Loggers lived in bush camps and shanties along the Musquash throughout the harvesting season, as business letters written by J.C. Hughson attested to.<sup>21</sup> By the 1870s onwards, many of the lumberjacks working in Muskoka Mills had moved from Quebec to work in the logging industry. By 1878, 100 of the loggers at Muskoka Mills, approximately half of all employees, were from Quebec.<sup>22</sup> The mills also employed a number of men from two neighbouring First Nations communities on Christian Island and the Gibson Reserve, now Wahta Mohawk Territory, who were employed throughout the summers loading lumber onto mooring ships.<sup>23</sup> A handful of employees and their families moved directly from England, such as did one mill manager under the ownership of A.H. Campbell.<sup>24</sup>

Many of the employees at Muskoka Mills were craftsmen, including carpenters, whose work can still be seen in the wood panels, written in French, English, and Latin, that adorn the walls of Longuissa, A.H. Campbell's summer home. Longuissa is still situated

<sup>16</sup> Henry T. Meeks, *Archibald Hamilton Campbell (1819-1909) and His Family* (Toronto, 1959), p. 13.

<sup>17</sup> Norton, "The Nortons," p. 53; Jones, "The Mills," pp 58-67.

<sup>18</sup> J. A. Macfie, "An Early Skirmish in the Pollution War," *Ontario Fish and Wildlife Review*, 16 (1977), pp 12-14.

<sup>19</sup> Jones, "The Mills," pp 58-67.

<sup>20</sup> Jones, "The Mills," pp 58-67.

<sup>21</sup> Letter from J.C. Hughson to his brother, January 25, 1871, MG28III, Vol 2, National Archives of Canada.

<sup>22</sup> James T. Angus, *A Deo Victoria*, p. 67.

<sup>23</sup> Dominion of Canada, *Annual Report of the Department of Indian Affairs for this year ended 31<sup>st</sup> December 1883* (Ottawa: Maclean, Roger & Co, 1884), p. 18.

<sup>24</sup> Anonymous, "Glimpses from the Memory of A. Jennings," *Cognashene Cottager, Centennial Issue*, 1967: p. 82.

across the Bay from Muskoka Mills. "Abandon Care All Ye Who Enter Here" and "Pas D'elle Yeux Rhone Cas Nous" can be read on two of these carved panels.<sup>25</sup>

Muskoka Mills housed a small Church of England in a building that doubled as a schoolhouse throughout the week. Regular services were provided by lay readers and the occasional clergymen who visited the town.<sup>26</sup> While most of the Quebecois loggers were Catholic, a common trend in many of Georgian Bay's lumber camps throughout these years, the church served villagers of all backgrounds.<sup>27</sup>

The town's population also included loggers' families. The company provided staff housing in the village, which by the 1880s had moved from its original location on the mainland west of the Musquash to the east side of the Mill Island, straddling the falls that powered the new mill. According to Jones, the river ran right through the centre of town<sup>28</sup>, and had a dam associated with it (Figure 7<sup>29</sup>). This design was apparently quite perilous, as a number of young children's death certificates can be found describing death by drowning at Muskoka Mills.<sup>30</sup> The mill manager, the acting justice of the peace, recorded births and deaths and sent records, as well as funeral caskets, to Penetanguishene.<sup>31</sup> Today, local graveyards around Tiny Township still mark the lives of villagers who died in Muskoka Mills.

The village's church, school, and hotel, the Rosin House, are all testament to the diversity of people residing in and visiting Muskoka Mills in the second half of the nineteenth century.<sup>32</sup> A ferry travelling from Penetanguishene to Muskoka Landing, a nearby terminal

on what is today called Whalen's Island, moved loggers, tourists, and goods to and from Muskoka Mills. By the 1880s, steamboats made the trip multiple times per week, transporting people, mail, and other supplies.<sup>33</sup>

While food staples were imported to the village by the steamer John Lee, villagers also sustained themselves through self-sufficient means.<sup>34</sup> A small orchard on the Mill Island, today dwarfed by hardwoods, is visible by boat. Based on historic photographs the orchard was planted in a large clearing, presumably neighbouring the village. Seasonal blueberry picking was another popular activity for villagers, the season lasting for several weeks each summer. The abundance of large freshwater fish available from Georgian Bay made fishing a popular pursuit.<sup>35</sup> Local anecdotes also suggest that picnics were a favourite pastime.<sup>36</sup> As the mills closed on Saturday evening and reopened the following Monday morning, villagers and their families could rent a rowboat and venture out among the myriad of islands on Georgian Bay,

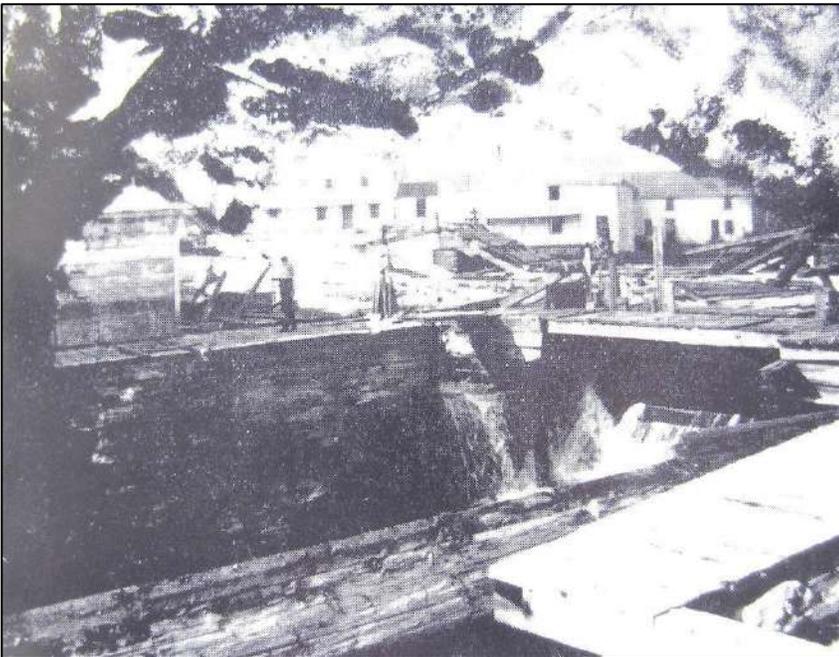


Figure 7. A reprinted photograph showing the village of Muskoka Mills, with the dam visible in the foreground.

<sup>25</sup> Louise Bell, "Wood Carvings at Longuissa," *Cognashene Cottager*, 1981: p. 51.

<sup>26</sup> Anonymous, "A. Jennings," p. 82.

<sup>27</sup> Paul H. Dube, "Paul Puts Punch into the Picture," *Cognashene Cottager*, 1967: pp 55-6.

<sup>28</sup> Jones, "The Mills," pp 58-67.

<sup>29</sup> Anonymous, *Cognashene Cottager, Centennial Issue*, p. 69.

<sup>30</sup> Simcoe County Archives; Norton, "The Nortons," p. 53.

<sup>31</sup> Jones, "The Mills," pp 58-67.

<sup>32</sup> Percy R. Hilborn, "Recollections of '92," *Cognashene Cottager*, 1967: p. 67; Dube, "Paul Puts Punch Into The Picture," pp 55-6; Norton, "The Nortons," p. 53.

<sup>33</sup> Jones, "The Mills," pp 58-67.

<sup>34</sup> Accounts of J.C. Hughson on food expenses, 1870-3, MG28III, Vol 1-2, National Archives of Canada.

<sup>35</sup> Dube, "Paul Puts Punch into the Picture," pp 55-6; Hilborn, "Recollections," p. 67

<sup>36</sup> Dube, "Paul Puts Punch into the Picture," pp 55-6.

camping in the boat and returning to town on Sunday night for the new work week.<sup>37</sup>

Muskoka Mills experienced growth and expansion throughout the second half of the nineteenth century, despite being dramatically influenced by highly erratic Canadian and American lumber markets and a near constant changeover of mill owners. Despite this economic growth, unsustainable logging practices soon took their toll. Timber limits on Georgian Bay and in the Muskoka Watershed had expanded from the original 75 acres obtained by Hamilton in 1853 to approximately 172,800 acres of forested land by the 1890s.<sup>38</sup> By 1895, exploitation of white pine had so depleted the timber limits that logging operations were no longer economically viable for the Muskoka Mill & Lumber Co.

In 1895 the mill closed down and never reopened. Villagers moved on to neighbouring mill towns in Waubashene and Collingwood and Muskoka Mills was quickly deserted. Fuelled by the sawdust piles dumped into Naylor's and Clifton Bay, an underground fire burned for years, flaring up during dry spells and destroying the town shortly after 1898. The fire was only completely extinguished in 1910, long after the village had burned down.<sup>39</sup> In less than fifty years, the town of Muskoka Mills had been established, grown to be one of the largest communities along the shore of Georgian Bay, and been precipitously abandoned; the company upon which it was based having cut itself out of wood.

Interestingly, historical accounts reveal that logging on the Musquash persisted for several decades after the mill closure. Documents from the Department of Indian Affairs in the National Archives reveal that in 1906, the Muskoka Mills and Lumber Company still actively pursued logging and damming rights in Wahta Mohawk territory on Black Lake; a request which was refused.<sup>40</sup> Don Scott also recalled seeing pointers chasing logs down the Musquash as late as 1926 (Figure 8<sup>41</sup>), where they were collected in immense booms and towed to other mills.<sup>42</sup>

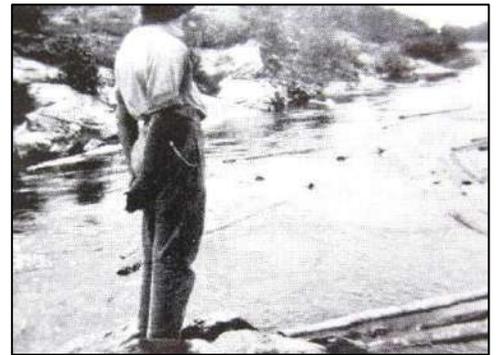


Figure 8. Don Scott watches the last of the logs travel down the Musquash River in 1926.

In many ways, the story of Muskoka Mills mirrors the general trends occurring in forestry across Ontario during this era. Driven largely by American markets and exhausted forest resources south of the border, central Ontario witnessed a massive expansion of logging operations and resource extraction in the mid- to late-nineteenth century, leaving little forest behind in the south-central parts of the province.<sup>43</sup> What was described as “an almost inexhaustible supply of pine” by surveyor Alexander Murray in 1853 was razed in just fifty years by successive owners of Muskoka Mills, seeking short-term profits over long-term tenure.<sup>44</sup> Similar stories exist across Georgian Bay, in Port Severn, Midland, and Waubashene, to name a few.<sup>45</sup>

Public concern over exhaustion of the province's forests was voiced from at least the 1880s, eventually giving rise to a conservation movement that is still manifested in Ontario's parks and nature reserves. Provincial clerks Phipps and Kirkwood called for provincial forest reserves in 1883.<sup>46</sup> By 1898, Ontario's Forest Reserve Act protected select forestlands against settlement.<sup>47</sup> By 1899, the Report of the Royal Commission on Forestry Protection in Ontario recommended reforestation projects in depleted forests.<sup>48</sup> It is probably no coincidence that Canada's oldest Faculty of Forestry was established in 1908 at the University of Toronto, around the time when Ontarians were reconsidering forestry practices.

Nevertheless, for many regions in the province the conservation movement was born from the near total deforestation of much of southern and central Ontario's old growth forests. Photographs show that the islands of Georgian Bay, like many other regions in

<sup>37</sup> Dube, “Paul Puts Punch into the Picture,” pp 55-6.

<sup>38</sup> Jones, “The Mills,” p. 62.

<sup>39</sup> Jones, “The Mills,” pp 58-67; Norton, “The Nortons,” p. 53.

<sup>40</sup> Refusal of Indians of Gibson Reserve to allow the Muskoka Mill & Lumber Company to raise the waters of Black Lake, Department of Indian Affairs, 1906, RG13-1-A-2, Vol. 2328, National Archives of Canada.

<sup>41</sup> Scott, “The Last Log-run,” p. 76.

<sup>42</sup> Scott, “The Last Log-run,” p. 76.

<sup>43</sup> Barry, *Georgian Bay*, p. 93.

<sup>44</sup> Florence B. Murray, *Muskoka and Haliburton*, p. xciv.

<sup>45</sup> Barry, *Georgian Bay*, pp 81-93.

<sup>46</sup> Armson, *Ontario Forests*, p. 132; Gary Long, *This River The Muskoka* (Erin, Ontario: Boston Mills Press, 1989), p. 38.

<sup>47</sup> Ross, “Forest Legislation,” p. 5.

<sup>48</sup> Armson, *Ontario Forests*, pp 130-1.

the province, had been stripped bare. Most of the mills that had pursued profit from hasty resource extraction, sending vast quantities of old growth pine to southern markets, had rendered themselves obsolete within decades.

One of the axioms of forestry is that we live and work with decisions that were made generations before our time. This is as evident at Muskoka Mills as any other site. The lives and deaths of loggers who passed through over one hundred and fifty years ago are visible along the river. The blackened trunks of old growth pine can still be found in select sites in Georgian Bay; the scarred remains of massive fires that spread across the islands after harvesting.<sup>49</sup> Unimaginable expanses of sawdust persist at the mouth of the Musquash (Figure 9<sup>50</sup>). The story of Muskoka Mills is a good reminder that, disconnected as we are from historic practices, decisions made long ago still permeate the present, shaping our landscapes and our understanding of where we have come from.



Figure 9: Satellite imagery showing ponds filled with sawdust.

### Bibliography:

- Anonymous. "Glimpses from the Memory of A. Jennings," *Cognashene Cottager, Centennial Issue*, 1967.
- Angus, James T. *A Deo Victoria: The Story of the Georgian Bay Lumber Company, 1871-1942*. Thunder Bay: Severn Publications Limited. 1990.
- Armson, Ken. A. *Ontario Forests: A Historical Perspective*. Fitzhenry & Whiteside. Toronto, ON. 2001.
- Bald, John W. Photograph of Sandy Gray's Falls, 1907. HS85/10/18564, British Library.
- Barry, James P. *Georgian Bay, the Sixth Great Lake*. Toronto: Clarke, Irwin & Company Limited. 1968.
- Bell, Louise. "Wood Carvings at Longuissa," *Cognashene Cottager*. 1981.
- David, Jennifer, ed., *Wind, Water, Rock and Sky: The Story Of Cognashene, Georgian Bay*. Toronto: Cognashene Book Corp. 1997.
- Department of Indian Affairs. Refusal of Indians of Gibson Reserve to allow the Muskoka Mill and Lumber Company to raise the waters of Black Lake. RG13-1-A-2, Vol. 2328, National Archives of Canada, 1906.
- Dominion of Canada. Annual Report of the Department of Indian Affairs for this year ended 31st December, 1883. Ottawa, Maclean, Roger & Co. 1884.
- Dube, Paul H. "Paul Puts Punch Into The Picture," *Cognashene Cottager*. 1967.
- Hilborn, Percy R. "Recollections of '92," *Cognashene Cottager*. 1967.
- Hind, Andrew and Maria Da Silva. *Ghost Towns of Muskoka*. Toronto: Dundurn Group. 2008.
- Hughson, J.C. Accounts, 1870-3. MG28III, Vols 1-2. National Archives of Canada.
- Hughson, J.C. Letter to his brother. January 25, 1871. MG28III, Vol 2. National Archives of Canada.
- Kohl, Cris. *Dive Ontario! The Guide to Shipwrecks and Scuba Diving*. Chatham: Cris Kohl. 1995.
- Long, Gary. *This River The Muskoka*. Erin, ON. Boston Mills Press. 1989.
- Jones, Owen. "The Mills at the Mouth of the Musquash River," *Cognashene Cottager*, Summer 1980.
- Macfie, J. A. "An Early Skirmish in the Pollution War," *Ontario Fish and Wildlife Review*, Vol 16, Issue 3. 1977.
- Meeks, Henry T. *Archibald Hamilton Campbell (1819-1909) and His Family*. Toronto. 1959.
- Murray, Florence B. *Muskoka and Haliburton 1615-1875: a collection of documents*. Toronto, Champlain Society for the Government of Ontario. 1963.
- Norton, Arthur L. "The Nortons of Muskoka Mills," *Cognashene Cottager*. 1967.
- Orr, W.A. Memorandum to the Deputy Minister. June, 1905. RG 10, Volume 2861, File 176, 296-58. National Archives of Canada.
- Sing, J. Survey showing the original location of Muskoka Mills, 1905. RG10, Vol 2861. National Archives of Canada.
- Ross, Monique M. A History of Forest Legislation in Canada, 1867-1996. *Canadian Institute of Resources Law*. March, 1997.
- Russell, Floren and Andrea Gutsche. *Ghosts of the Bay: A Guide to the History of Georgian Bay*. Toronto: Lynx Images, Inc. 1994.
- Scott, Donald P. "The Last Log-run On the Muskosh River," *Cognashene Cottager*. 1967.

Additional information on the mill history can be found at the following website, but please note that the information presented does not have source attribution: <http://www.ghosttownpix.com/ontario/towns/muskokam.html> (accessed May 26, 2014).

<sup>49</sup> Memorandum from W.A. Orr to the Deputy Minister, June, 1905, RG 10, Volume 2861, File 176, 296-58, National Archives of Canada.

<sup>50</sup> Satellite imagery from Google Maps.

# Art in the Park

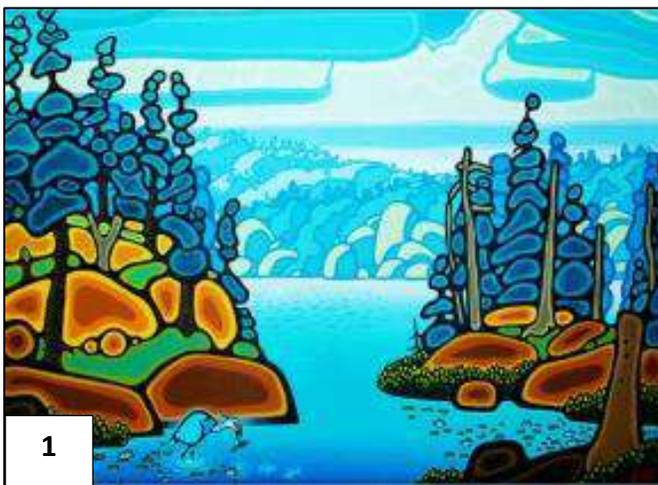
By Sherry Hambly

On the recent long weekend in May my daughter and a friend of ours and I traveled to Warkworth to enjoy their annual “Art in the Park” event (<http://www.warkworthartinthepark.ca/2014-exhibitors/>). There were over 20 exhibitors and we had a very pleasant afternoon visiting the booths and admiring each artist’s work. It struck me as we toured around the various exhibits that forests, trees, leaves and forest landscapes played an important role in the art that was displayed. I have been thinking for some time that we need to explore the connection that Ontarians have with their forests through art.

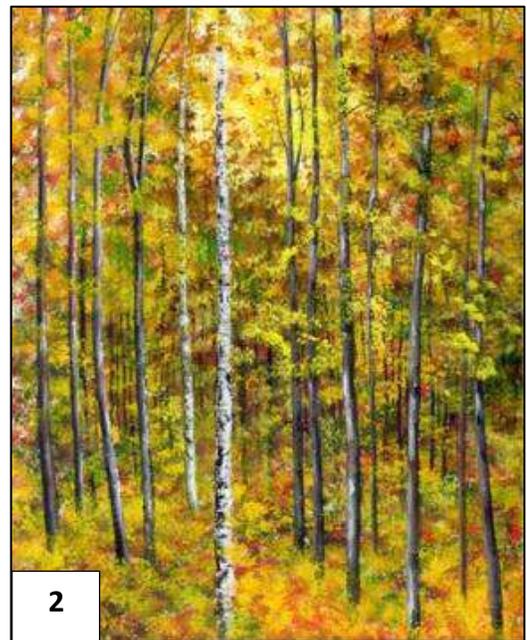
I started to think about this topic from the first time I reviewed the contents of the 15 years of *Sylva* volumes in the Ontario Ministry of Natural Resources library in Peterborough. Every edition has several depictions of Canadian art showing some aspect of the forest, or trees. I counted over 60 artists whose art was included.

These two experiences, plus Ken Armson’s comments in his article in this issue on working near where Tom Thompson painted, prompted me to spend some time looking on the internet for art from Ontario that showed some aspect of the forest or trees. It is amazing how much art depicts themes of forests and trees, both from a natural perspective as well as a working perspective. We can learn a lot about the forest and the times from this art. I’m sure there have been learned articles written on this topic, and I will be pursuing this thought to see if we can find material to include in future issues of *Forestry*.

For this issue I am including several paintings and other art that I like – both from the past – and the present (mostly from Warkworth). We plan to include Canadian art focussed on Ontario’s forests and trees in future issues of *Forestry*.



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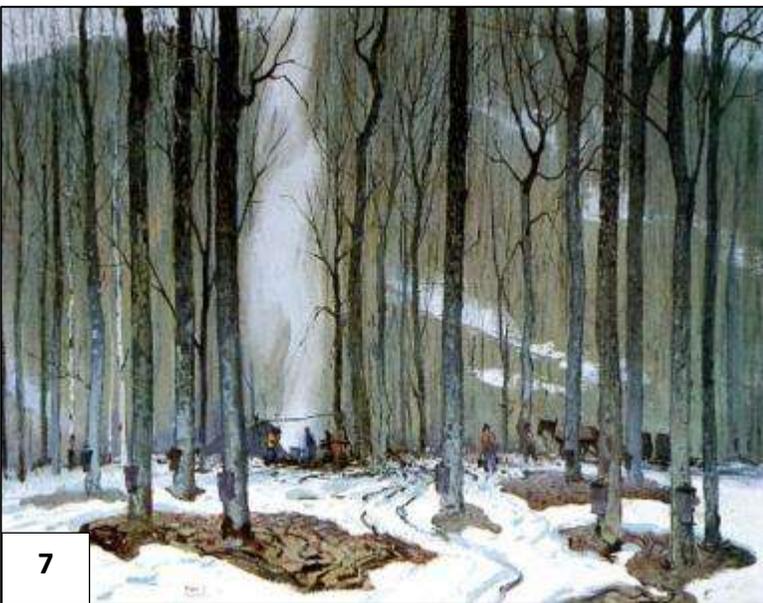
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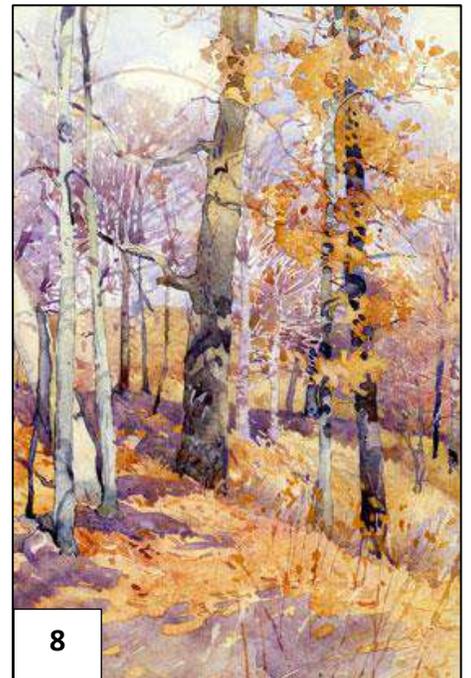
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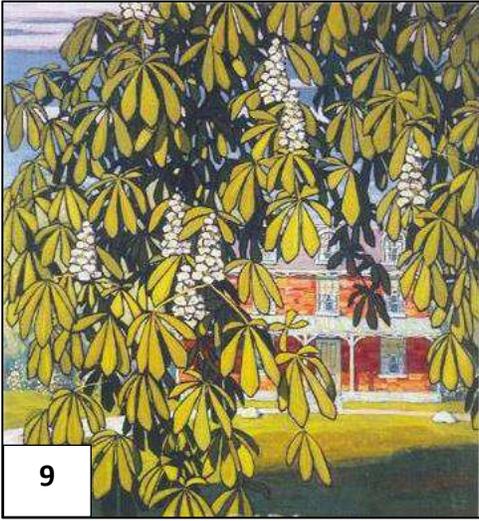
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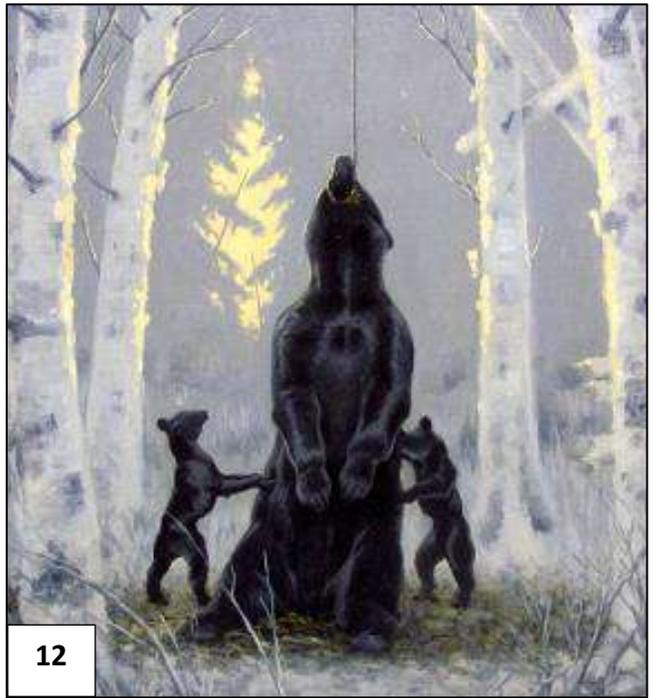
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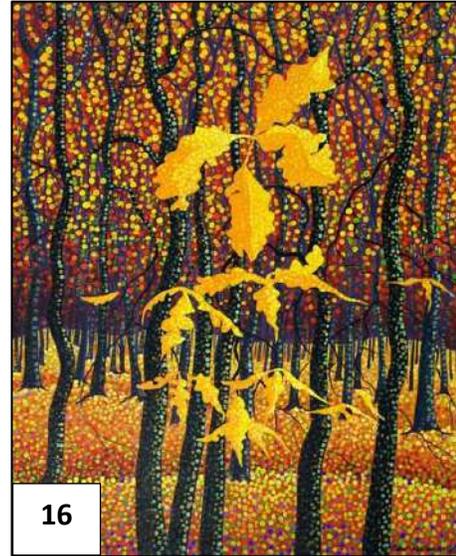
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### Artists and Artworks

1. A.J. Vandrie, "Forest"
2. Anna Whitmore, "Just a Few More Minutes"
3. Gary Mulcahey, "Roots"
4. Marta Mouke, "Fragmented Landscape"
5. Elizabeth Kiser - Pendant
6. Paul Nabuurs, "Nuwork"
7. G.F. Arbuckle, "Les Sucres"
8. C.W. Jeffreys, "Autumn Oak and Beech"
9. Lawren Harris, "Chestnut Tree House, Barrie"
10. Larwren Harris, "Tamarack Swamp"
11. Tom Thompson, "The Alligator, Algonquin Park"
12. Arthur Heming, "Mother Bear Caught in a Snare"
13. Tom Thompson, "Northern River"
14. T.M. Martin, "Oxen Hauling Logs"
15. David Vasquez, "Spring"
16. Peter McConville, "Oak Trees"

## *A Rewarding Opportunity Awaits!*

Are you interested in forest history?  
 Do you love to spend time researching interesting topics and finding information?  
 Do you like to write and edit other peoples' work?  
 Do you like working with people?

If you answered yes to most of these questions, then the Forest History Society of Ontario wants you! The Society is searching for a new editor of *Forestry* as the current editor is stepping down at the end of 2014. The current editor will continue to support the publication of *Forestry* where possible.

At the moment, the position is filled on a volunteer basis, but the Society does provide an annual honorarium. The Society is working towards obtaining grant funding to assist in the creation of the publication *Forestry*.

If you are interested in this opportunity, please contact Mark Kuhlberg or Ken Armson at [info@ontarioforesthistoria.ca](mailto:info@ontarioforesthistoria.ca).

# Comments

## Origins of Desertification of Ontario's Forests

By John Bacher

In the last issue of *Forestry* I issued a challenge to forest historians concerning the origins of desertification in Ontario. The challenge was to find a written reference early than the 1883 reference by Fred C. Wade of the Council of Agricultural and Arts Association.

Surprisingly, although not receiving any replies to my query as to the origins what Edmund Zavitz termed "blow sand conditions", I did come upon an answer to my own question. It emerged through additional research on the life of one of Ontario's pioneer conservationists, the Mohawk Chief, George Johnson.

Johnson was the principal native source for a book titled the "Iroquois Book of Rites". It was written by a personal friend, the distinguished anthropologist, Horatio Hale. He documented Johnson's own daring efforts to protect forests from illegal logging, which led to three assassination attempts on Johnson's life. One of the key rituals that Hale recorded was the Iroquois rite of Condolence for the raising of a new chief. Critical to understanding of this ceremony is an appreciation that each of the fifty titles of the Iroquois Confederacy was created as a result of the foundation of the League of Peace. Upon the death of a chief, new chiefs are raised up to inherit the titles that are allocated to the various clans of the six nations.

Working closely with George Johnson, Hale stressed how the chant of the Roll Call of Chiefs stresses the "departed greatness", which contrasts with "the degeneracy of our own day." It concludes with a warning that, "Their degenerate successors have inherited the names, but not their mighty intellects, and in the flourishing region which they left, nothing remains but a desert."<sup>51</sup>

Johnson took quite seriously the warnings about the land becoming a desert as it literally turned this way in Ontario in the 1860s. When the new Confederacy Council house was opened in Oshweken the Roll Call of Chiefs warning of the failure of political leadership to cause desertification was sung. How Johnson took its words seriously is shown that a few weeks after it was chanted the first attempt was made on his life by an irate tavern-keeper, who was deeply involved in illegal deforestation, John Mills.<sup>52</sup>

### References

Hale, Horatio. Chapter Four: Condolence and Installation, in "*The Iroquois Book of Rites*". Philadelphia: D.G. Brinton, 1883.

Ibbotson, Heather. "Johnson Family Often Faced Ugly Drama" Brantford: Brantford Expositor, August 8, 2009.

<http://www.brantfordexpositor.ca/2009/08/08/johnson-family-often-faced-with-ugly-drama>. Accessed April 8, 2014.

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<sup>51</sup> Horatio Hale, Chapter Four: Condolence and Installation, in "*The Iroquois Book of Rites*", (Philadelphia: D.G. Brinton, 1883). This book is available to read for free at many online sites. It is also available for sale as a recent hardcopy edition.

<sup>52</sup> Heather Ibbotson, "Johnson Family Often Faced Ugly Drama", (Brantford Expositor, August 8, 2009). <http://www.brantfordexpositor.ca/2009/08/08/johnson-family-often-faced-with-ugly-drama>, accessed April 8, 2014.

# Comments on the History of the Ontario Forest Ranger School

By John Bacher

The article, *Forest Ranger School Reflections*, by James Baker and Wilson Samis in the last edition of *Forestry* makes an important contribution to our understanding of Ontario forest history. There are however, a few significant omissions, which if added to their narrative, will give a fuller account of its historical significance.

Baker and Samis are correct in pointing out that the origins of the Ontario Forest Ranger School lay in the creation of a Chief Ranger Station at Dorset in 1921. What is left out of their account, however, is an understanding of why it was so important for such a facility to be created.

Forest rangers were a key component of the then Forest Protection Branch of the Department of Lands and Forests headed by Edmund Zavitz. One of their most important tasks at this time was to control forest burning by farmers through a permit system. Exemptions to farmers from such controls were the cause of the disastrous Haileybury fire of 1921.<sup>1 2</sup>

Lisa Harrison and Sherry Hambly in their article, *The Ontario Forest Ranger School*, also published in the last edition of *Forestry*, are correct to point to the important role of J.C.W. Irwin in establishing the Ontario Forest Ranger School in his brief to the parliamentary committee examining the Department of Lands and Forests. What is left out of this account however, is how Irwin praised Quebec's combination of the role of fire ranger and conservation officer in securing more protective eyes on the forest than in Ontario where such duties were divided.<sup>3</sup>

In 1942 Edmund Zavitz visited Quebec's ranger school in anticipation of the creation of a similar facility in Ontario for training both wildlife and forest protection workers. This visit provided the basis for the subsequent evolution of the Frost Center. It also motivated the merger, in 1948, of the former Department of Fish and Game with the Department of Lands and Forests.<sup>4</sup> This was an important evolution in bringing forward a more integrated approach to forest/wildlife management in the province.

## References

Zavitz, Edmund. *Recollections*. Toronto: Department of Lands and Forests, 1964.

Drury, E.C. *Farmer-Premier*. Toronto: University of Toronto Press, 1965.

Irwin, John C. W. Testimony to the Legislative Committee on the Department of Lands and Forests, 1941. Journals of the Legislative Assembly of Ontario, 732-39. Irwin's presentation to the Select Committee of the legislature is of great historical significance. He also denounced the firing of professional foresters by the Hepburn government. Irwin generally laid out a conservationist vision which would be gradually accomplished a decade later through the reorganization of the Department of Lands and Forests.

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<sup>1</sup> Edmund Zavitz, *Recollections*, (Toronto: Department of Lands and Forests, 1964), 14; E. C. Drury, "Farmer-Premier", (Toronto: University of Toronto Press, 1965) 140-80.

<sup>2</sup> E. C. Drury, *Farmer-Premier*, (Toronto: University of Toronto Press, 1965) 140-80.

<sup>3</sup> John C. W. Irwin, Testimony to the Legislative Committee on the Department of Lands and Forests, 1941, Journals of the Legislative Assembly of Ontario, 732-39. Irwin's presentation to the Select Committee of the legislature is of great historical significance. He also denounced the firing of professional foresters by the Hepburn government. Irwin generally laid out a conservationist vision which would be gradually accomplished a decade later through the reorganization of the Department of Lands and Forests.

<sup>4</sup> Zavitz, *Recollections*.

# Species

## Paleoecology of Eastern Hemlock

By Sherry Hambly

### Taxonomy

Eastern hemlock (*Tsuga canadensis*) is a member of the *Tsuga* Genus within the *Pinaceae* Family. This species has a storied history in its naming as A.J. Fordham<sup>1</sup> relates:

"In the beginning of scientific botanical practice the hemlock was included with the pines. It was labeled *Pinus canadensis* by Linnaeus in 1763. Michaux, the French botanist, in 1796 grouped it with the firs and named it *Abies canadensis*, while later scientists included it with the spruces and called it *Picea canadensis*. It was the celebrated Austrian botanist, Stephen Ladislaus Endlicher (1804-1849) who in 1847 used the name "*Tsuga*" which is the Japanese name for the hemlock, as a section in his genus *Pinus*. Later Elie Abel Carrière (1816-1896), a famous French botanist, in 1855, classified all hemlocks into a separate group under the generic name *Tsuga*. Thus this important section of our North American conifers bears a Japanese name, given to it by an Austrian, confirmed by a Frenchman and now accepted by scientists generally."

The common name hemlock originated from the similarity of the smell of its crushed foliage to the poison hemlock shrub.

The taxonomic provenance of eastern hemlock is thus<sup>2 3</sup>:

Domain – Eukaryota – plants and animals

**Kingdom** – *Plantae* – plantes, Planta, Vegetal, plants

Subkingdom – *Viridiaeplantae* – green plants

Infrakingdom – *Treptophyta* – land plants

**Division** – *Tracheophyta* – vascular plants, tracheophytes

Subdivision – *Spermatophytina* – spermatophytes, seed plants, phanérogames

Infradivision – *Gymnospermae* – gymnosperms, gymnospermes, gimnosperma

**Class** – *Pinopsida* – conifers

**Order** – *Pinales* – pines

**Family** – *Pinaceae* – pines

**Genus** – *Tsuga* Carrière – hemlock

**Species** – *Tsuga canadensis* (L.) Carrière – Eastern hemlock, Canada hemlock, hemlock spruce

Up to 24 living species of *Tsuga* have been described over the years.<sup>4</sup> Currently, the accepted number of species within the genus is either eight or nine depending on the taxonomic authority.<sup>5</sup> Four species of *Tsuga* grow in North America and four or five occur in Asia. Eastern hemlock (*T. canadensis*) is one of the four North American species.<sup>6</sup> In addition to the native species, there are over 350 named horticulture varieties and cultivars of *Tsuga*, almost entirely for the species *T. canadensis*.<sup>7</sup>

<sup>1</sup> A.J. Fordham, "*Tsuga Canadensis* and its Multitude of Variants," *Arnoldia* 23 (1963): 100-102.

<sup>2</sup> "Taxonomic Hierarchy for *Tsuga canadensis*," Integrated Taxonomic Information System, accessed June 4, 2014, [http://www.itis.gov/servlet/SingleRpt/SingleRpt?search\\_topic=TSN&search\\_value=183397](http://www.itis.gov/servlet/SingleRpt/SingleRpt?search_topic=TSN&search_value=183397).

<sup>3</sup> "Taxonomic Tree for *Tsuga canadensis*," Commonwealth Agricultural Bureaux International, Invasive Species Compendium, accessed June 4, 2014, <http://www.cabi.org/isc/datasheet/55236>.

<sup>4</sup> A. Farjon, *A Handbook of the World's Conifers, Volume 2* (Leiden, The Netherlands: Brill Academic Publishers, 2010), 1007.

<sup>5</sup> Tree Genes accepts eight species, <https://dendrome.ucdavis.edu/treegenes/species/index.php?letter=Tsuga&#results>, accessed June 4, 2014; The Catalogue of Life accepts nine species, <http://www.catalogueoflife.org/col/browse/tree>, accessed June 4, 2014.

<sup>6</sup> Farjon, *Handbook*.

<sup>7</sup> *Encyclopedia of Conifers, A Comprehensive Guide to Cultivars and Species* (Royal Horticulture Society), accessed June 4, 2014, <http://www.coniferworld.com/listing.php?x=t>.

## Early Paleo History

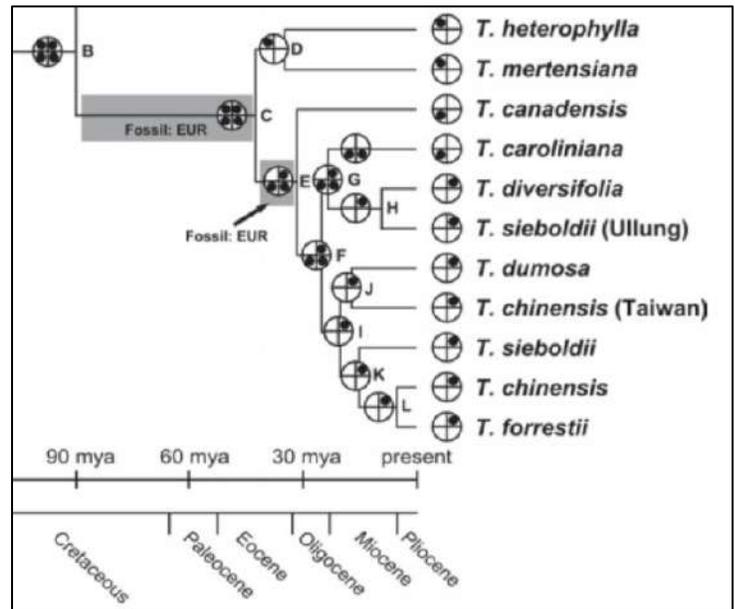
The earliest fossils of the family *Pinaceae* were located in the high-latitude and high-altitude regions of North America during the early Tertiary. Six of the eleven genera recognized currently in the *Pinaceae*, including the earliest known members of ... *Tsuga* ... are represented in the high-latitude middle Eocene deposits ... including those on Axel Heiberg Island, Arctic Canada.<sup>8</sup> Fossil records of *Tsuga* have also been found in Europe and eastern Russia. Based on the fossil record, it has been concluded that *Tsuga* was widespread during most of the Cenozoic with representatives in North America, Europe, and Asia and that their distributions became greatly reduced as global climate became cooler and drier during the late Tertiary.<sup>9</sup> Several other events, including migration/dispersal, extinction, speciation, vicariance, and morphological changes, led to its current disjunct distribution in eastern Asia (China and Japan) and western and eastern North America.<sup>10</sup>

Fossil records indicate that *T. canadensis* arose during the Eocene era approximately 30 million years ago.<sup>11</sup>

## Current Range of *Tsuga* / *Tsuga canadensis*

Of the four species of hemlock in North America, two grow in the west and two in the east. *T. canadensis* grows along the east coast of North America from Georgia to Nova Scotia and then inland to just west of the Great Lakes. The other eastern species, *T. caroliniana*, has a very small population situated within the range of *T. canadensis* in the southern Appalachian mountains.

Genetically *T. canadensis* is more closely related to the west Asian species than it is with its physical neighbour *T. caroliniana*. *T. canadensis* is a sister to the Asian clade of species, while *T. caroliniana* is a direct member of the Asian clade (think of *T. canadensis* as being an aunt to *T. caroliniana*). These two species do not hybridize easily because of this genetic distance.



Estimates of ancestral age ranges for *Tsuga* species. From Havell et al., *Phylogeny and Biogeography of Tsuga ...*, *Systematic Botany* (2008), 33(3): 478–489.



Distribution of living species of *Tsuga* across the world. From Havell et al., *Phylogeny and Biogeography of Tsuga ...*, *Systematic Botany* (2008), 33(3): pp. 478–489.

<sup>8</sup> B.A. LePage, "The Evolution, Biogeography and Paleoeology of the *Pinaceae* Based on Fossil and Extant Representatives," *Acta Hort.* (2003): 615:29-52.

<sup>9</sup> A. Farjon and Denis Filer, *An Atlas of the World's Conifers, Volume 2* (Leiden, The Netherlands: Brill Academic Publishers, 2013), 1007.

<sup>10</sup> LePage, *Evolution*.

<sup>11</sup> Nathan P. Havell et al., *Phylogeny and Biogeography of Tsuga (Pinaceae)*, *Systematic Botany* 33 (3) (2008): 478–489.

*T. canadensis* is an important component of the Great Lakes – St Lawrence forest communities in Ontario. There are many outlier occurrences of eastern hemlock, especially along the western edge of its range, possible remnants of its northern migration after the end of the last ice age.<sup>12</sup>

### More Recent History (Post Glacial Migration)

*T. canadensis* is an excellent barometer of change as it is very sensitive to soil moisture, climate and disturbance. The species has been studied extensively because it can tell a story of changes in its environment. Thus, there is considerable data available on its paleoecological history.

At the height of the last ice age *T. canadensis* retreated to the eastern side of the southern Appalachian mountains. It is possible that there were other refugia in New Jersey (and possibly to the west of the Appalachians). The small refugial area in Georgia left eastern hemlock with one of the lowest genetic diversity levels of the eastern North American forests. Only red pine has a lower genetic diversity profile among the conifers.<sup>13</sup>

After the retreat of the last ice-cap, *T. canadensis* began its migration north to its current range. The frontier of the species moved northward and westward at an average rate of 20-25 km per century (Davis 1981 1990). *T. canadensis* was a slow migrator, following the spruces and pines north, because of its small seeds, and habitat requirements of high moisture and moderate temperature.<sup>14</sup>

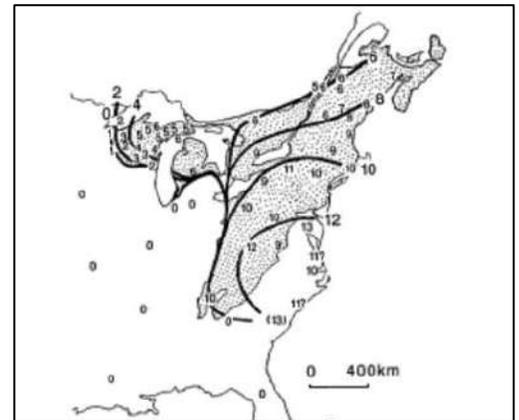
### Migration into Ontario

*T. canadensis* pollen was found in a peat bog in Kitchener at the 8,000 years BP (before present) mark, several thousand years after spruces and pines had colonized the margins of the retreating glaciers.<sup>15</sup> Paleo pollen counts from around the Great Lakes show that *T. canadensis* and beech were the dominant trees in southern Ontario from 5 to 7 thousand years BP.<sup>16</sup> Hemlock was the dominant tree east of Georgian Bay<sup>17</sup>. At one point it reached as far north as Nina Lake, but then retreated 140 km south.<sup>18</sup> The pollen count then shows a precipitous and very rapid decline at about 5000 years BP. Subsequently, *T. canadensis* was absent from pollen counts for one to two thousand years. It has been postulated that its demise was related to either an insect infestation or climate warming, or a combination of both.<sup>19</sup> "The lower-than-modern precipitation of the mid-Holocene may have reduced hemlock's tolerance for cold stress and winter desiccation and perhaps increased its susceptibility to insects or pathogens. Hemlock began a new expansion across the region after 4000 yrs BP as July temperature decreased and precipitation increased."<sup>20</sup>

Hemlock played an important ecological role in the post-glacial forests. The invasion of hemlock "slowed rates of nutrient cycling, changed microclimate, and



Current distribution of *Tsuga canadensis* showing outlier populations. From R.M. Goodman and Keith Lancaster, Eastern Hemlock, in *Silvics of North America*, Volume 1, 1965. p. 703, accessed June 4, 2014, [http://www.na.fs.fed.us/spfo/pubs/silvics\\_manual/Volume\\_1/tsuga/canadensis.htm](http://www.na.fs.fed.us/spfo/pubs/silvics_manual/Volume_1/tsuga/canadensis.htm).



Post glacial migration routes of *Tsuga canadensis* at 2000 year intervals. From Margaret Bryan Davis, "Climate Change and the Survival of Forest Species," Chapter 6 in G.M. Woodell ed., *The Earth in Transition*, (London: Cambridge University Press, 1990) 100.

<sup>12</sup> F. Collins Hobbs, "The Biogeography and Phylogeography of Disjunct Eastern Hemlock (*Tsuga canadensis*) Populations," (PhD Dissertation, Indiana State University, 2013).

<sup>13</sup> Michee Joseph Lemieux, "Cytoplasmic DNA Polymorphisms in Eastern Hemlock," (MSc Dissertation, University of Laval, 2010).

<sup>14</sup> Margaret Bryan Davis, "Climate Change and the Survival of Forest Species," Chapter 6 in G.M. Woodell ed., *The Earth in Transition*, (London: Cambridge University Press, 1990) 100.

<sup>15</sup> T.W. Anderson, Pollen and plant macrofossil analyses on late Quaternary sediments at Kitchener, Ontario, (@ Current Research, Part A, Geological Survey of Canada, Paper 82-1A, 1982) 131-136.

<sup>16</sup> Thane W. Anderson, "Forest Changes in the Great Lakes Region at 5-7 ka BP," *Géographie physique et Quaternaire*, 49 (1) (1995) 99-116.

<sup>17</sup> K.D Bennett, "Holocene History of Forest Trees in Southern Ontario," *Canadian Journal of Botany*, 65 (9) (1987): 1792-1801.

<sup>18</sup> Kam-Biu Liu, Holocene Paleoecology of the Boreal Forest and Great Lakes-St. Lawrence Forest in Northern Ontario," *Ecological Monographs*, 60 (20 (1990):179-212.

<sup>19</sup> Janice L. Fuller, "Ecological Impact of the Mid-Holocene Hemlock Decline in Southern Ontario, Canada," *Ecology*, 79 (7) (1998): 2337-2351.

<sup>20</sup> R. Calcotte, "Mid-Holocene Climate and the Hemlock Decline: The Range Limit of *Tsuga canadensis* in the western Great Lakes Region, USA," *The Holocene*, 13 (2) (2003): 215-224.

affected deer habitat, as well as reducing fire frequency. Hemlock invasion increased diversity by producing the landscape mosaic of hemlock- and hardwood-dominated forests.”<sup>21</sup> Hemlock’s success during its dominance may have been related to its ability to thrive on thin, nutrient-poor soils and moist climates, along with its ability to live for a long time in a suppressed state under a canopy prior to being released by disturbance.<sup>22</sup>

Eastern hemlock pollen numbers began to increase about 1500 years after its demise, but did not attain its pre-decline prominence. Since that time it’s presence in the temperate forests of Ontario has been somewhat static until the arrival of European immigrants 400 years ago at which time hemlock pollen numbers began to decline.<sup>23 24</sup>

### The Future of Eastern Hemlock

The ecological role and future of hemlock in Ontario’s forests will undoubtedly change because of the insect pest hemlock woolly aphid (*Adelges tsugae* Annand) and the warming and drying of traditional hemlock habitats caused by climate change.<sup>25</sup>

Hemlock woolly aphid, an endemic pest of *Tsuga spp.* in Asia, was imported into North America in the 1950s. North American native hemlocks do not have resistance to this pest and it has played a lethal role in decimating hemlock forests in the southern United States. It has been gradually moving north and west over the past half century, and was discovered in Etobicoke in 2012 and in the Niagara Region in 2013.<sup>26 27</sup>

Professor Amy Hessel of West Virginia University has created the Hemlock Legacy Project (HeLP), an unfunded community based effort to gather data on and from hemlock trees in eastern North America before hemlock is eradicated from this area. Professor Hessel, with Neil Pederson, has produced a progress report on work to date, and urges scientists, citizens and organizations to become involved.<sup>28</sup>

Here are some key points from the report:

#### Hemlock

- is a foundation species
  - o It is a primary producer that exerts substantial influence on the structure and function of an ecosystem while controlling its community dynamics
- is one of the longest lived tree species over much of the temperate eastern North America
- is sensitive to climatic variation and ecosystem disturbance, making it an ideal species for the reconstruction of environmental history
  - o Hemlock’s shade tolerance allows it to persist in deep shade for decades to centuries while adding minimal radial increment. Mortality of neighboring canopy trees releases suppressed hemlock from energy-limiting conditions. The timing and change in local competition from this release from overstory competition is reflected in the tree rings of the surviving, suppressed trees
- will be functionally extinct within two decades

Professor Hessel is encouraging scientists and citizens to collaborate in the collection of data before the species is decimated. More information on the HeLP project can be found here: <http://pages.geo.wvu.edu/hemlocklegacy/>.

The Ontario government, through its climate change program, has considered the effects of climate warming and have used hemlock as an example of the adaptation needs of climate change sensitive species.<sup>29 30</sup>

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<sup>21</sup> Margaret B. et al., “Effects of Invasion by *Tsuga canadensis* on a North American Forest Ecosystem,” In *Responses of Forest Ecosystems to Environmental Changes*, A. Teller, P. Mathy and J.N.R. Jeffers, eds, (Netherlands: Springer, 1992) 34-44.

<sup>22</sup> Ibid.

<sup>23</sup> Fuller, “Ecological Impact of the Mid-Holocene.”

<sup>24</sup> Anthony D’Amato et al., *A Forest Giant on the Edge*, David Foster ed., (Boston New Haven: Yale University Press, 2014)

<sup>25</sup> Ibid.

<sup>26</sup> Amy Hessel and Neil Pederson, “Hemlock Legacy Project (HeLP): A Paleoecological Requiem for Eastern Hemlock, Progress Report”, *Progress in Physical Geography*, 37 (1) (2012): 114–129.

<sup>27</sup> Taylor Scarr, “Ontario to Face New and Old Pest Threats in 2014,” Working Forest, <http://www.workingforest.com/ontario-face-new-and-old-pest-threats-2014/>, accessed June 4, 2014.

<sup>28</sup> Hessel, “Hemlock Legacy Project”.

<sup>29</sup> S.J. Colombo, *The Impact of Climate Change on Ontario’s Forests*, Ontario Ministry of Natural Resources, Forest Research Information Paper No. 143 (Toronto: Queen’s Printer, 1998).

The newly published book *Hemlock: A Forest Giant on the Edge*, written by Yale University scientists, brings current and past research together to discuss the possible future effects of environmental changes on the fate of eastern hemlock in North America. The authors rue the almost certain loss of this magnificent giant and state that the loss of this foundation species will have significant impacts on the temperate forests of eastern North America.<sup>31</sup>

## Bibliography

- Anderson, T.W. *Pollen And Plant Macrofossil Analyses on Late Quaternary Sediments at Kitchener, Ontario*. @ Current Research, Part A, Geological Survey of Canada, Paper 82-1A, 1982.
- Anderson, Thane W. "Forest Changes in the Great Lakes Region at 5-7 ka BP." *Géographie Physique et Quaternaire*, 49 no. 1 (1995) 99-116.
- Bennett, K.D. "Holocene History of Forest Trees in Southern Ontario." *Canadian Journal of Botany* 65 (9) (1987): 1792-1801.
- Calcotte, R. "Mid-Holocene Climate and the Hemlock Decline: The Range Limit of *Tsuga canadensis* in the Western Great Lakes Region, USA." *The Holocene* 13 (2) (2003): 215-224.
- Colombo, S.J., M.L. Cherry, C. Graham, S. Greifenhagen, R.S. McAlpine, C.S. Papadopol, W.C. Parker, T. Scarr, M.T. Ter-Mikaelian, M.D. Flanagan. *The Impact of Climate Change on Ontario's Forests*, Ontario Ministry of Natural Resources, Forest Research Information Paper No. 143. Toronto: Queen's Printer, 1998.
- D'Amato Anthony, Benjamin Baiser, Aaron M. Ellison, Audrey Barker Plotkin. *Hemlock: A Forest Giant on the Edge*. David Foster ed. Boston New Haven: Yale University Press, 2014.
- Davis, Margaret B., Shinya Sugita, Randolph R. Calcote and Lee Frelich. "Effects of Invasion by *Tsuga canadensis* on a North American Forest Ecosystem," In *Responses of Forest Ecosystems to Environmental Changes*. A. Teller, P. Mathy and J.N.R. Jeffers, eds. Netherlands: Springer, 1992.
- Davis, Margaret Bryan. "Climate Change and the Survival of Forest Species," Chapter 6 in G.M. Woodell ed. *The Earth in Transition*. London: Cambridge University Press, 1990.
- Farjon, A. *A Handbook of the World's Conifers, Volume 2*. Leiden, The Netherlands: Brill Academic Publishers, 2010.
- Farjon, A., and Denis Filer. *An Atlas of the World's Conifers, Volume 2*. Leiden, The Netherlands: Brill Academic Publishers, 2013.
- Farjon, A. *Handbook Encyclopedia of Conifers, A Comprehensive Guide to Cultivars and Species*. Royal Horticulture Societ. Accessed June 4, 2014. <http://www.coniferworld.com/listing.php?x=t>.
- Fordham, A.J. "*Tsuga Canadensis* and its Multitude of Variants." *Arnoldia* 23 (1963): 100-102.
- Fuller, Janice L. "Ecological Impact of the Mid-Holocene Hemlock Decline in Southern Ontario, Canada." *Ecology* 79 (7) (1998): 2337-2351.
- Gleeson, J., Gray, P., Douglas, A., Lemieux, C.J., and Nielsen, G. 2011. *A Practitioner's Guide to Climate Change Adaptation in Ontario's Ecosystems*. Sudbury: Ontario Centre for Climate Impacts and Adaptation Resources.
- Havell, Nathan P., Christopher S. Campbell, Thomas F. Vining, Ben LePage, Randall J. Bayer, and Michael J. Donoghue. "Phylogeny and Biogeography of *Tsuga* (*Pinaceae*) Inferred from Nuclear Ribosomal Its and Chloroplast DNA Sequence Data." *Systematic Botany* 33 no. 3 (2008): 478-489.
- Hessl, Amy and Neil Pederson. "Hemlock Legacy Project (HeLP): A Paleoecological Requiem for Eastern Hemlock, Progress Report." *Progress in Physical Geography* 37 (1) (2012): 114-129.
- Hobbs, F. Collin. "The Biogeography and Phylogeography of Disjunct Eastern Hemlock (*Tsuga canadensis*) Populations Inferred from Nuclear Ribosomal Its and Chloroplast DNA Sequence Data." PhD Dissertation, Indiana State University, 2013.
- Lemieux, Michee Joseph. "Cytoplasmic DNA Polymorphisms in Eastern Hemlock." MSc Dissertation, University of Laval, 2010.
- LePage, B.A. "The Evolution, Biogeography and Paleoecology of the *Pinaceae* Based on Fossil and Extant Representatives." *Acta Hort.* (2003): 615:29-52.
- Liu, Kam-Biu. "Holocene Paleoecology of the Boreal Forest and Great Lakes – St. Lawrence Forest in Northern Ontario." *Ecological Monographs*, 60 (20 (1990): 179-212.
- "Taxonomic Hierarchy for *Tsuga canadensis*." Integrated Taxonomic Information System. Accessed June 4, 2014. [http://www.itis.gov/servlet/SingleRpt/SingleRpt?search\\_topic=TSN&search\\_value=183397](http://www.itis.gov/servlet/SingleRpt/SingleRpt?search_topic=TSN&search_value=183397).
- "Taxonomic Tree for *Tsuga Canadensis*." Commonwealth Agricultural Bureaux International, Invasive Species Compendium. Accessed June 4, 2014. <http://www.cabi.org/isc/datasheet/55236>.
- The Catalogue of Life. <http://www.catalogueoflife.org/col/browse/tree>. Accessed June 4, 2014.
- Tree Genes. <https://dendrome.ucdavis.edu/treegenes/species/index.php?letter=Tsuga&#results>. Accessed June 4, 2014.

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<sup>30</sup> J. Gleeson *et al.*, *A Practitioner's Guide to Climate Change Adaptation in Ontario's Ecosystems*. (Sudbury: Ontario Centre for Climate Impacts and Adaptation Resources, 2011).

<sup>31</sup> D'Amato, *Forest Giant*.

# Personal Recollections

## Forest History Bits

By Ken Armson

I have always been interested in various aspects of history since I was a schoolboy, but as a forestry student I was “hooked” on the pieces of historical evidence related to forests and activities in the forest that could be found while walking and working in the bush. While timber cruising in the Black River watershed north of Lake Superior in 1948, I came across a native campsite that had obviously been used repeatedly over the decades, and I saw the effects of successive campfires on the forest vegetation. Then, as a student in field camp at the Forest Ranger School watching Professor Ted Dwight use scars on live white pine to date fires or the “best used before” dates on Copenhagen snuff tins to approximate a possible year of logging.

In my professional career, I have seen the importance of documentation in ensuring that events and their significance are recorded so that those who come after can learn from them. Oliver Wendell Holmes, the great American jurist, said, “*When I want to understand what is happening to-day or try to decide what will happen, I look back.*” Let me give three examples of some of my experiences in “looking back”.

When I graduated in 1951, I joined the Research Division of the Ontario Department of Lands and Forests and spent a good part of my first two field seasons in the northeast quadrant of Algonquin Park in what was then called the Petawawa Management Unit (PMU), one of four model forest management units set up immediately after the end of World War II. The forest was characterized by white and red pine stands, many of which had regenerated following logging by J.R. Booth and others in the late 19th century. My job was to produce a detailed forest site map based on Hills site classification scheme. To accomplish this task, I had to walk over a good part of some 285,000 hectares. In the first season, three of us from the Division, Dr. David Scott (silviculturist), Ed Hughes (mensurationist) and myself, set up our tents in a red pine stand on the shore of Grand Lake at Achray. This site was adjacent to the Deputy Chief Ranger headquarters and across the railway tracks from a wooden building used to house Junior Rangers. Just a few feet from where we were camped was a jack pine that bore a striking resemblance to the one in Tom Thompson’s “*The West Wind*”. Across the lake was Carcajou Bay, which served to identify our location as possibly where he painted “*Jack Pine*”.

The Deputy Chief Ranger building at Achray was a very substantial 1½-story structure with an impressive stone fireplace. The Deputy Chief Ranger told us that it had been built after the end of World War I when staff from the Faculty of Forestry at the University of Toronto came with students in the fall to conduct a field camp and that this was where the professors lived. The students were housed in the wooden building used (in 1951) for Junior Rangers. We went into the building and on the wooden walls above where the students’ bunks would have been were colourful inscriptions of the names of many forestry students who would become major players in Ontario’s forestry scene: Ralph Carman, the Irwin brothers, John and Cecil, Ike Marritt, Frank Sharpe, J.A. (Steve) Brodie, G.G. Cosens and Frank MacDougall. A list of graduates indicated that it was used during the 1920s.



Tom Thompson’s “Jack Pine”.

During our initial explorations to find suitable pine stands for Dave and Ed to set up experimental plots, we examined an area at Forbes Creek not too far from Achray. We were surprised to find some wooden posts with metal tags indicating that they might be associated with sample or experimental plots. With more searching we found evidence that there had been a series of thinnings, and nearby I found evidence of trenching around plots. Knowing that the thinning plots were probably the work of Professor T. (Teddy) W. Dwight, we contacted him at the Faculty and he was overjoyed that we had found his plots. As a result, Ed Hughes re-staked and re-measured them. Since Professor Dwight had kept the original plot data, it was possible to assess the result of 30 years of growth. When I asked Dwight about the trenching plots, he said they were done by Professor J.H. White, who was repeating an experiment first undertaken by Professor Toumey at the Yale forestry school, to determine the effects of root competition on plant growth in immature stands of white pine.

What available evidence is now available of what I have recounted? The Research Division published the thinning trial data<sup>32</sup>, the wooden building at Achray was destroyed many years ago, and no photographs are available of the inside, as far as I’m aware. Sisam<sup>33</sup>, in his history of the Faculty of Forestry, makes no reference to a Fall camp at Achray, and Kuhlberg<sup>34</sup> states that the provincial government had “...apparently begun offering the faculty a tract in Algonquin Park instead of the one in Temagami.” In looking back, we uncovered a piece of unrecorded history of the faculty’s student field camp and also the documentation of 30 years’ results of a pine thinning experiment from Dwight’s plots.

<sup>32</sup> I am indebted to Lisa Buse of the Ontario Forest Research Institute, Sault Ste. Marie for digitized copies of two file reports by E.L. Hughes in 1955 and 1956 containing the results of Dwight’s plot trials:

1. 1955. Growth of White Pine Following Complete Release from Intolerant Hardwoods: Algonquin Park. Division of Research, Ontario Department of Lands & Forests.
2. 1956. Growth of White and Pine and Red Pine following Thinning and Release Treatments: Eastern Algonquin Park. Division of Research, Ontario Department of Lands & Forests.

<sup>33</sup> Sisam, J.W.B. 1982 *Forestry and Forestry Education in a Developing Country: A Canadian Dilemma*. University of Toronto Press

<sup>34</sup> Kuhlberg, Mark, 2009. *One Hundred Rings and Counting*. University of Toronto Press.

During the hearings of the Environmental Assessment of Timber Management on Crown lands in Ontario in the winter 1988-89, I was being cross-examined as a witness by the lawyer for one of the challengers (Forests for Tomorrow). They had proposed that no forest management activities, particularly harvesting of timber, should be undertaken where the depth of soil was less than 15 cm. I had challenged this and cited an example of the management of white pine on shallow soils over bedrock in what had been the University of Toronto Forest at the Forest Ranger School at Dorset. In the late 1950s, two other staff members (Dave Love and Dal Hall) and I carried out a uniform shelterwood cut of white pine adjacent to Partridge Lake, close to Highway 35 and south of the school. Professor Art Michell, with students, had mapped the cutover and measured the logs and volumes at each skidway site; subsequently as part of a soils exercise with students I supervised the exposure of the root systems of some of the cut trees showing the minimal surface litter layer and the fact that the roots were mainly in fissures and clefts of the bedrock. I took photos of the root systems and remembered that when the University left the area the records for forestry operations had been stored in an old filing cabinet in the basement of the main building.

It happened to be a Thursday afternoon in the depth of winter when my interrogation was taking place. The Chair of the Board (Mr. Jeffreys) asked if we could produce evidence of how productive such a shallow soil could be. Peter Hynard RPF happened to be in Thunder Bay at the hearing as one of the Ministry's support staff and also lived near Minden south of the Ranger School on Highway 35. He returned home and over the weekend and not only found the filing cabinet with all the pertinent information and data but snowshoed into the area at Partridge Lake, and scraping away the snow, found one of the stumps and exposed root systems that I and the students had exposed some thirty or so years earlier. When the Hearings reconvened after the weekend, we were able to present this evidence, which convinced the Board that the 15 cm proposal was unrealistic.



Another example that illustrates the importance of documentation occurred when I was conducting research in preparing the history of the Victoria Harbour Lumber Company<sup>35</sup>. The company's timber licences from 1887 to 1927 were primarily north of Victoria Harbour along the east shore of Georgian Bay and the North Channel as far as Spragge. I was interested in documenting the basic information on volumes and timber sizes for those licences. Such detailed information would only be in the ledgers of the local provincial Crown Timber Sales Agents. While with the Ministry in the early 1980s I had spoken with a number of staff about the importance of conserving old records. The then Regional Forester in Sudbury, Cam Stevens, told me that he was collecting up these ledgers in his Region and asked me what he should do with them. I suggested he send them to Archives Ontario, which he did. At Archives Ontario the ledgers had been microfilmed and were available for the period 1901 – 1924<sup>36</sup>.

From these records, I obtained information on the logging contractors, their location on the licences and details of the timber cut by species, pieces and sizes. The Archives did not have any ledgers for the Parry Sound area, so I went to Parry Sound and enquired of a retired former MNR staff member if she knew anything about the Parry Sound Crown Timber Agent's ledgers. She told me that when the District Office was being vacated she saw many items, including the ledgers being put in a truck for disposal at the town dump, so she went out and rescued two volumes. I asked where these were and she said she had taken them to the West Parry Sound Museum<sup>37</sup>. At the museum, I found them on a shelf in the basement! Unfortunately, no records exist of timber cut by the company in two townships (Blair and Mowat) south of the French River, but in 1916 the company sold their limits to Schroeder Mills and Timber Company of Milwaukee, and the information on the timber they cut during 1917 to 1926 in Blair and Mowat was available from these ledgers. Interestingly, in the winters of 1921, 1923 and 1924 students from the Faculty of Forestry, University of Toronto, visited the company's logging operations and prepared detailed reports on the state of the forest, the logging operations, including data on log volumes and their assessment of the future forest. Their logging reports, together with all others, were kept by Professor Michell. On his death in 1978, the reports were placed in the Faculty of Forestry collection in the archives of the Robarts Library. The logging area is now managed by Westwind Forest Management Inc. In 2004 I was able to visit these townships and was able to compare the students' assessments with the 2004 forest inventory.

It was from such experiences as these that I determined to establish in Ontario an organization that could bring together others who wanted to ensure the preservation and conservation of Ontario's forest history. The result was the formation of the Forest History Society of Ontario in September 2009.

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<sup>35</sup> Armson, K.A. & M. McLeod. 2007. The Legacy of John Waldie and Sons – A History of the Victoria Harbour Lumber Company. Natural Heritage Books, Dundurn Press, Toronto.

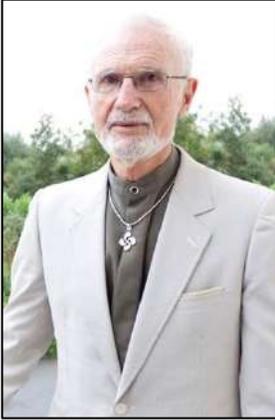
<sup>36</sup> Archives Ontario, RG1-44-0-13, MS 1983.

<sup>37</sup> West Parry Sound Museum. Crown Timber Agent's Ledger, 1907 – 1926.

# People

## Tribute to David Fayle

By Ken Armson



Dr. David Fayle, a founding member and strong supporter of the Forest History Society of Ontario, died on 21 December 2013, after suffering paralysis for more than two years following a surfing accident in Spain in September 2011. David not only created the Society's logo but also suggested the name "Forestory" for the Society's journal.

David was born in the small village of Dursley, Gloucestershire, England. He came to Canada after serving two years in the National Service with the British Army in Hong Kong. He graduated in forestry from the Faculty of Forestry, University of Toronto, in 1957 and received his Diploma in Forestry from Oxford University in 1959. In 1967 he received his PhD from the University of Toronto for his thesis on tree roots, which established him as an international authority on the subject. He was a research scientist with the Federal Forestry Branch and later with the Ontario Ministry of Natural Resources after an interim period as an editor at Clarke Irwin, publishers. In 1987 he was appointed Associate Professor of Forestry at the University of Toronto, retiring in 1995 as Professor Emeritus of Forestry.

David was very involved in both architectural and land conservation, and their history, particularly in Richmond Hill and later in Adjala Township in the Oak Ridges Moraine where he and his wife lived. He was an excellent artist, and his ink and watercolour drawings have captured many forest and forestry related subjects. David will be fondly remembered for his enthusiasm, wit and good humour, sometimes sly. Farewell David.

## Lewis Ringham, February 2, 1923 – April 24, 2014

(Information obtained from the obituary notice posted on Sargent and Son website)



Lewis Ringham passed away, peacefully, at the Thunder Bay Regional Health Sciences Centre on Thursday, April 24, 2014.

Lew was born in Toronto, the eldest of two children of Florence and Norman Ringham. He grew up in North Toronto. The family attended St. Clement's Anglican Church during the '30s, where Lew found his first paying job as part of the 24 member Boys Choir (\$2.50/mo + \$1.00 weddings).

He attended Lawrence Park Collegiate. At 18 he signed on as a deckhand and spent two summers on a Shell tanker plying the Great Lakes. In September of 1942, he enlisted in the RCAF to train as a Radar Tech, and later re-mustered as an Air Crewman. He took navigation training in Winnipeg, and was then deployed for additional training in England, Scotland and Northern Ireland before returning to Canada in April of 1945. He capitalized on a Veterans Affairs offer of 1 month of university tuition for each month of military service, and enrolled in Forestry at the University of Toronto. A summer job timber cruising led him to Sioux Lookout, where he met his bride-to-be Grace Edey. They were engaged at Christmas of 1948, married in October of '49, and subsequently moved to Kenora where he began his career with Lands and Forests. Lew became Regional Forester in Cochrane in '56, Director of Timber Sales in Toronto in '59, and returned to the north as Regional Director in Port Arthur in 1964. He was appointed as the first Assistant Deputy Minister for Northern Ontario in the newly minted Ministry of Natural Resources in 1973. He retired as ADM in May of 1980 and he and Grace remained in Thunder Bay until April of 1985 when they relocated to Bracebridge, Ontario.

Along the way Lew and Grace made many enduring friendships, both within and outside of the Lands and Forests/MNR family; and they maintained a broad network of contacts across the north, and in southern Ontario. They returned to Thunder Bay in November 2009. During his retirement Lew worked briefly as a consultant, but found it interfered with golf, curling and travel. He served on a variety of public sector and industry boards, as well as being a life member of the Ontario Professional Forestry Association, and a member of the Bracebridge Library Board and a long-time volunteer at the South Muskoka Memorial Hospital.

# The Archives / Museums Corner

## The Fort Frances Museum

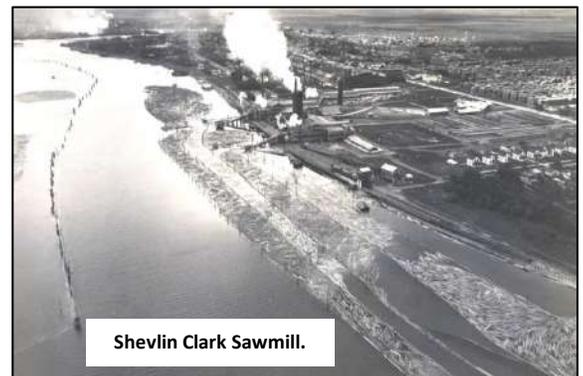
By Sherry George

The Fort Frances Museum and Cultural Centre houses a considerable amount of material related to local forest history including photographs and archival records from the local pulp and paper mill. From May to August this summer, the museum will commemorate over 100 years of forestry in the region with an exhibit and speakers series that will recognize the contributions of papermaking and wood harvesting.

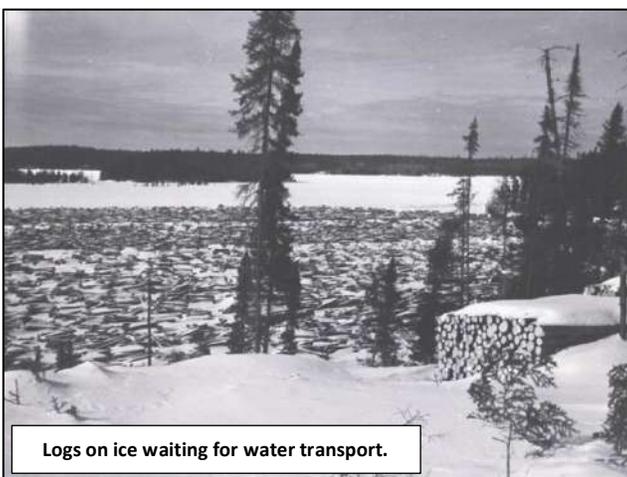
Fort Frances is situated approximately halfway between Thunder Bay, Ontario, and Winnipeg, Manitoba. Our community grew up alongside the Rainy River, which, in our area, marks the international border between Canada and United States (US). Like many other forts across Canada, our town began as a fur-trading post. As the fur trade declined, people turned to farming and wood harvesting. The Rainy River not only provided the transportation required to get the lumber to markets, but the Alberton Falls at the centre of town provided the means to harvest electric power and build a paper mill.

An American investor, E.W. Backus, secured rights to dam the Alberton Falls on the US side and immediately began negotiating with the Ontario and Canadian governments to do the same on the Canadian side. Dam construction between the sister communities was completed in 1910, and paper production began on the American side at International Falls, MN. Four years later, the paper mill on the Canadian side was completed at Fort Frances. The first roll of paper was produced at the Fort Frances paper mill on May 14, 1914. The paper mill, the community's only industry, was crucial to the town's development. But it was the power agreement reached with the investor that ensured the profitability of the mill and thus the prosperity of the town.

In the late 1800s and early 1900s, the wood harvested in Northwestern Ontario was primarily red and white pine, used for lumber that was shipped worldwide. Sawmills sprang up everywhere and included the Shevlin Clarke mill at Fort Frances. Although this summer's exhibit deals primarily with paper production, the bush camps that dotted the river and lakes system served both the sawmill and pulpwood industries. Many men, including area farmers, augmented their income through logging. Wood, typically, was harvested in summer time, then hauled to the rivers and ice landings in winter, ready for the natural waterways to transport the wood to sawmills and paper mills in and around Fort Frances. Up until the late 1970s, wood was transported primarily by water, in large wood booms towed by boats. Part of the museum experience today is to visit the Hallett, the area's largest tugboat, now at rest at the Sorting Gap Marina on the Rainy River, where wood was once sorted prior to being produced into lumber or paper.



Shevlin Clark Sawmill.



Logs on ice waiting for water transport.

The Fort Frances Museum is the repository of thousands of photographs taken over a hundred years and more of wood harvesting. Pictures document old-time logging using axes, crosscut saws, horses and sleighs, and follow the seasons through cutting, hauling, the river drive and the tow. We can see the march of progress through mechanization and note when tugboats gave way to pulp trucks. The same is true with the production side of things. Although many of the earlier sawmills are gone and the paper mill closed this year, historical documents and photographs have marked the changes brought by advancing technology and through modernization. Records show that the paper machines were rebuilt numerous times, process was streamlined to reflect environmental and safety legislation, while computers replaced manual control rooms. Most of the photographs have been taken by photographers employed by the various pulp and paper companies that owned the mill, so pictures are of good quality.

The museum also has several videos, one of logging, the other of the papermaking process.

The Fort Frances Museum is equipped with a library that includes a forestry section, but research must be conducted on-site as materials are not for public loan. Archival documents include past mill publications that are a great source of information on everything from the forest to the printer. Digitization is in progress, but with limited staff, we have a long way to go. However, over 60 years of newspapers have been photographed and are in a searchable format, which makes research a lot simpler. During this past year, a student doing his thesis on the papermaking industry completed most of his research here.

With the permanent closure of the paper mill this year, our community is feeling the uncertainty that comes with massive layoffs and the consequent relocation of young families. Our town administration is working to reinvent the community, but the future is unsure. The museum, like other town services, is concentrating on keeping its doors open. Until we hear otherwise, it's business as usual as we gear up for the summer.



For further information on the museum visit the museum's website here:  
<http://museum.fort-frances.com/>.

## Archives of Ontario – Ontario Ranger School Records

By Maurice Serrano

The Archives of Ontario acquired the records of the Leslie Frost Centre from the Ministry of Natural Resources under records schedule in 2013. The Archives of Ontario is in the process of arranging and describing the records, as well as undertaking conservation treatment where necessary, to enable public access.

The series documents the many activities of the Centre under its various names: Ontario Forest Ranger School (1945-1964), the Ontario Forest Technical School (1964-1968) and the Leslie Frost Centre (1974-2004). The records include, but are not limited to, curriculum and training records, student records, director records, resources management records, architectural drawings, sound and moving image records, anniversary material and photographs.

The photographs (sub-series RG 1-654-1) cover the entire period of the School/Centre's existence and include photographs of students, staff, facilities and activities. To date, roughly half of the photographs have been listed, described and rehoused.

While the records are being processed, no descriptions are currently available online. However, a partial list of the photograph series can be made available. For information on accessing these records, please contact the Archives of Ontario's Customer Service Unit at [reference@ontario.ca](mailto:reference@ontario.ca) or 416-327-1600, 1-800-668-9933 Toll-Free Number (Ontario only).

# Canada's First Forestry Station Interpretive Centre

By Dolf Wynia

When I was transferred as nursery superintendent to the St. Williams Forestry Station in 1983 and was taken for a tour by my new staff, I remembered thinking that the little "museum" I was shown just might become an interesting retirement project once that time would arrive. The original office building had an interesting display of old German nursery tools, locally invented nursery equipment, many historic photographs and educational supplies used for touring school classes and senior citizens. The building itself, built by the nursery staff in about 1914, was noteworthy because of the chestnut ceilings. Senior technician, Don Robertson, had long taken an interest in the documentation and protection of the artifacts and was proud to show me around.



Retirement came earlier than expected in 1989, and the nursery fell into the hands of Gerry Liddle and his company Aqua North, which seemed intent on levelling all the "old" buildings. Soon after Liddle went into bankruptcy. A new company, Forest Care, took over the facilities, which now had a very large and modern green house and cold storage facilities. This company was managed by John de Witt, a well-known personality on the northern Ontario nursery scene.

In 2005, looking ahead to the 100th anniversary of the Canada's First Forestry Station in 2008, John was casting about for ideas to celebrate that. At a breakfast meeting, attended by John, Paul Smith, president of the South Walsingham/Port Rowan Heritage Association, myself and our respective wives, it was decided that we would try to restore the museum. We received a "Trillium" grant and were able to restore the building to its original state,

removing the superficial "modernization" efforts by successive government services renovations. It was declared a heritage building by Norfolk County after the beautiful local pine interior was recovered. Unfortunately, the historical exhibits had suffered from pilferage but many new items arrived once people heard of our efforts.

The restored building was the heart of the *Forest Fest* celebrations in 2008 when Norfolk County was the *Forest Capital of Canada* for a year. Many thousands of people were touched by the celebrations as about 25 local organisations took part in some of the related events. Also, several books have been written largely as a result: Harry B. Barrett, a local author, published the history of the St Williams Forestry Station: *They Had a Dream*. Harry also published *Alligators of the North*, the history of water machines used in logging that were built in Norfolk County, after he met Dave Lemkay, of the Canadian Forestry Association, who had access to the work that Clarence Coons had done on the subject.



Dr. John Bacher did a lot of his research in the files of the Interpretive Centre, particularly the E.J. Zavitz photographs at the station, for his book *2 Billion Trees and Counting*; the biography of Dr. Zavitz, which should be required reading for anyone working or planning a career in forestry or conservation.

During the recent recession, the market for containerized coniferous reforestation seedlings in northern Ontario dried up. Under new management, the nursery broadened their product line of stock and added the contracting of rehabilitation and natural restoration of construction sites using certified local seed sources. I believe, you can now even buy packs of locally sourced native plants at some of the Costco stores. Their new name is the *St. Williams Nursery and Ecology Centre*, and, under the leadership of President Allan Arthur, they provide our Heritage Association with the building and they keep the lights and heat on for us as a public service.

Currently, the Centre is open daily except Tuesdays from 11:00 am until 4:00 pm from the Victoria Holiday weekend until Labour Day, thanks to the assistance of the Canada Summer Jobs program. At other times, visitors can usually make arrangements by calling Anne or Dolf Wynia at 519 875 3350 or by emailing to [wynia@kwic.com](mailto:wynia@kwic.com). Apart from the exhibits, we have a good collection of technical forestry literature and a massive collection of photographs, many of historical significance. A listing of the available literature eventually will be posted on the website of the Forest History Society of Ontario. Almost everything is labelled and catalogued but perusing 4000 photographs in search of a particular subject can be time consuming.

For those who are interested in what happened to the intensively managed forests surrounding the nursery as demonstration sites: They are now classified as a "Conservation Reserve" where the management of trees is subservient to the management of "Species at Risk". The main product seems to be post-graduate degrees in wildlife biology; not quite what Dr. Zavitz had in mind but a credit to the several generations of foresters who were aware of the natural values of the area under their jurisdiction.

Members of the Forest History Society are heartily invited to stop in for a visit when they are in the neighbourhood. They are most likely to see some familiar faces on the walls. Also, they might wish to visit the cairns for Dr. Zavitz at the nursery and for Dr. J.H. White at Turkey Point.



Peter and Sherman Zavitz flanking the E. J. Zavitz memorial cairn at the St. Williams' Ecology Centre.

## Helping to Preserve Our Forest History

By Mark Kuhlberg

It has been said that those who forget their history are condemned to repeat its mistakes, and the Forest History Society of Ontario (FHSO) is determined to ensure Ontarians learn from the errors – and the wise decisions – that have affected the province's forests over the last few centuries. Since the FHSO's inception, it has been diligently working to preserve archival materials related to our forests, everything from aerial cruising data from the James Bay survey of the early 1920s to uniforms worn by members of Ontario's Department of Lands and Forests during the mid-twentieth century. In fact, this effort has even extended beyond Ontario's boundaries.

First, these efforts have produced significant fruit within our province. The FHSO was responsible for facilitating the donation of archival materials from J.F. Turnbull and N.J. Turnbull, both of whom graduated from the University of Toronto's (U of T) Faculty of Forestry in 1922 and 1949 respectively, to the U of T's Archives. Included among these materials are rare photo albums that chronicled the early life of a tiny forest community built by Kimberly-Clark northeast of Lake Nipigon. In addition, another collection from A.H. Burk, who graduated from the Faculty in 1924 and was a forester on Lake Huron's north shore for roughly the next four decades, was also donated to U of T's Archives. Furthermore, the FHSO acted as a liaison overseeing the donation to the Espanola Public Library of a box of old documents from the Kalamazoo Vegetable Parchment Company, which owned the pulp and paper mill in that town during the mid-twentieth century.

And three more donations are in the offing. The first one involves the late W.K. Fullerton, who graduated from the forestry school in Toronto in 1955; the FHSO is working to see the documents and artefacts from his career donated to an appropriate institution. Likewise, the FHSO has been working for roughly 3 years on ensuring that the records from the Woodlands Department of the Spruce Falls Power & Paper Company,

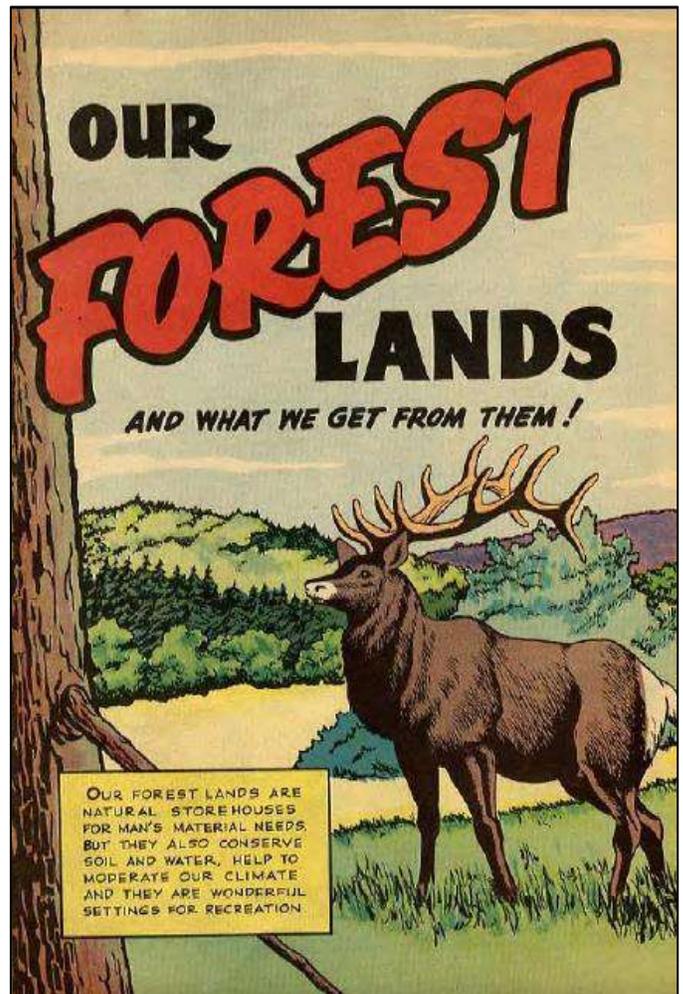
whose mill was built in the mid-to late 1920s in Kapuskasing, are donated to the Archives of Ontario. This is an extraordinary collection, as it chronicles the firm's remarkable stewardship program; it initiated a thorough inventory of its timber limits during the mid-1920s and an avant-garde silvicultural program roughly two decades later. Finally, the FHSO has been working to preserve the historical records still held by the descendants of the old Austin-Nicholson Lumber Company; its activities were centred on Chapleau beginning in the early 1900s. It is hoped that these records will soon find a permanent home at the new Greater City of Sudbury Archives (the Austin family operated a pioneering airline out of Sudbury beginning in the 1930s).

Finally, Ken Armson, the FHSO's past Chairman, singlehandedly ensured that a bit of forest history from outside Ontario was saved as well. Donald McDonald was a graduate of the forestry school at the University of New Brunswick (UNB), and he rose to serve as Canada's last Dominion Forester. Ken helped ensure that the surviving documentary and photographic records from McDonald's career were donated to UNB's archives.

It is hoped that the FHSO can continue to protect the history of our province's forests, but we need everyone's help to do so. If you know of historical records or artefacts that ought to be preserved, please contact Mark Kuhlberg at Laurentian University in Sudbury, and he will assist in facilitating their transfer to a repository.

## Ontario Department of Lands and Forests Comic Book

Mac Gilmour, Timmins, via Rob Galloway, sent along a copy of the comic book information pamphlet that the Ontario Department of Lands and Forests published in 1963. It is very well done, and contains lots of good information. This is the cover photo of the comic. The comic is in pdf format if anyone would like to have a copy (please email the editor).

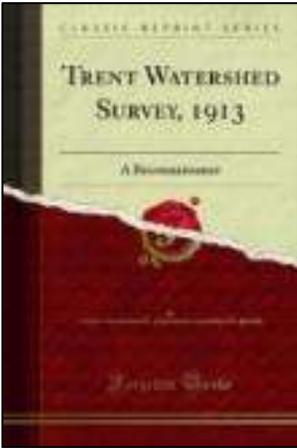


# Books / Articles / Web Sites or Other Resources

## Book Review

By Peter Hynard

***Trent Watershed Survey by Clifton Howe, PhD and J.H. White, BA, BScF, with a discussion by Bernhard Fernow; Published by the Bryant Press, Toronto, 1913***



The *Trent Watershed Survey* is a must-read for forestry practitioners and historians who live and work in Haliburton County, central Hastings, northern Peterborough County and the City of Kawartha Lakes north of the Kawarthas. It's a story of environmental degradation and human suffering that is both well documented and well told. It will help any reader better understand the physiographic character of the southern Shield and how its forests came to be in their present condition.

The year was 1911. Fifty years had passed since the government of the day had made the decision to open-up the southern Shield country to settlement. By the time the survey was done, the horse was out of the barn. A once-great pine resource had been completely destroyed by logging and fire, land that had been cleared at enormous human effort was found to be totally unsuitable for agriculture and there had already occurred a mass out-migration of the population due to economic hardship. Most of the logged-over forestland had burned, some of it twice, and little was left but rock barrens and abandoned farms. It was a catastrophe of enormous proportion: environmentally, economically and socially.

The *Trent Watershed Survey* is the report that was commissioned by the federal Commission of Conservation to assess the situation and make recommendations on it. The survey was organized by the University of Toronto's first dean of forestry, Bernhard Fernow, and carried out by his later successor, Clifton Howe, and one of its first graduates, James White. The fieldwork was done by Messrs. Howe and White in the summer of 1912 with the help of just three student assistants. Their report was published in 1913.

The first amazing part of the story is how five individuals could cover 5,500 km<sup>2</sup> in just four months and provide a report of such detail on everything ranging from geology to forest cover types, population and land use. They did their work on foot, moving camp every four or five days, and by interviews with reeves, township clerks and other informed people. The second amazing part is the insight shown by the authors on the forest conditions of the day, how they came to be in such a state and what might be done to remedy the situation. Their recommendations eventually led to the formation of organized forest fire-fighting capacity, which brought the wildfire era to an abrupt end.

The report is 133 pages in length and in hardcover format. It includes three maps, 32 photographs and numerous well-organized tables. The writing is clear, concise and easy to read. The authors are often blunt in their condemnation of the past mismanagement by government and brutal in their description of the social conditions that existed in the outlying communities. It is a report of a type that is rarely seen today.

The *Trent Watershed Survey* may be read in its entirety on-line at archive.org (<https://archive.org/details/trentwatershedsu00cana>) at no charge. Two copies are available at the Lindsay Public Library: one in the reference section and one in the archives. (They may not be borrowed but the reference copy can be read on the premises.) At the time of writing, three copies were available for sale at Amazon.ca, ranging in price from \$25.00 to \$164.70. EBook versions in .pdf format are also available from AbeBooks.com for \$9.99. (These are scanned versions of the 1913 edition that can be sent to you by e-mail for downloading at a cost of \$9.99).

# Oral Interviews

## Forest History Society of Ontario

The Forest History Society of Ontario, through Sherry Hambly, has been interviewing Ken Armson to document his career in forestry. To date, eight hours of interview material have been collected. This material will form part of the archival material on Ken's long and fruitful career in forestry. A snippet of the interviews is available online on the Society's website and can be heard here:

<http://www.ontarioforesthistor.ca/index.php/oral-histories>.

The Society is looking for other candidates to interview eventually, and people willing to interview them. Please contact Sherry Hambly at [fhsoed@bell.ent](mailto:fhsoed@bell.ent) or 705-876-7271 about suggested interview candidates or if you are willing to conduct an interview (instructions will be provided).

## Environmental Commission of Ontario

### Oral Interviews

The Environmental Commission of Ontario is documenting the history of the development of their organization. One of their resources is oral interviews. Three Chief Foresters of Ontario (Bob Burgar, Mike Innes and Ken Armson) have been interviewed and their recordings are available here:

<http://environmentalbeginnings.ca/chief-foresters-of-ontario/>.

Other oral interviews are posted on the following topics related to forests and forestry:

- Pulp and Paper Mills
- Acid Rain Scientists
- Crown Forest Sustainability Act
- Protecting the Niagara Escarpment
- Protecting the Rouge River - a Priceless Watershed
- Temagami, Old Growth and Canoeing
- The Battle to Kill Acid Rain
- The Timber Class Environmental Assessment.

### Other Resources of the Commission

The Commission has a number of resources that document forest history from the perspective of the *Environmental Bill Of Rights*.

## Forest History Society (of America) Journal

From 1975 to 1989 the Forest History Society published the quarterly *Journal of Forest History*. During this time, numerous articles relating to Canada appeared in the publication. The journal's name changed to *Forest & Conservation History* in 1990, and in 1996 the Society replaced the journal with a new quarterly titled [\*Environmental History\*](#).

Sixteen articles on Canadian forest history were published in the Society's journal and they are listed on their website:

<http://www.foresthistory.org/research/jfhca.html>.

# “Renewing Nature’s Wealth”

(Lambert, Richard S. and Paul Pross. Toronto: The Ontario Department of Lands and Forests. 1967). The book cover describes this book as “the exciting story of Ontario’s natural resources, and John Robarts, in his Foreword to the book as ‘much more than a history of one of the Departments of the Government of the Province of Ontario: it is a vital component of the history of Ontario’, reaching back nearly 200 years to the days of the first surveyor General of Upper Canada in 1794. The book describes the impact made by a civilized people upon the primitive forest that originally covered the land, and the development of its natural resources under public administration from an early state of confusion and waste down to the modern era of conservation and scientific management.” We will provide a précis of one chapter of this book in each edition of the journal.

**Part II: Consolidation and Conservation, 1842-1900 - Chapter 9 (The Ferment of New Ideas):** The theme of this chapter is forest conservation, forest reservation and forest protection. Conservation in Ontario first originated with the Atlantic salmon fishery in Lake Ontario and the St. Lawrence River, through the efforts of a few key Ontario government figures. Wildlife populations were beginning to decline as well. Between 1807 and 1857 six wildlife laws were enacted. But they did little to prevent the decline of the fishery and other wildlife as there was no enforcement associated with them. Two new fisheries acts in 1857 and 1858 were the first attempts at including enforcement. But a government official who tried to prosecute under this law lost his life and the law languished. Part of the problem was jurisdiction as the federal government held control of all fisheries until the 1890’s when Ontario became responsible for management of inland fisheries. Samuel Wilmot, with his fish hatchery near Newcastle was the only active fish conservationist during the period 1864 to 1894.

On the forest side, conservation did not begin until the lumbermen became involved in the issue. The wood market depressions of the late 1840s and the 1860s began this process. The *Select Commission* of 1849, which reviewed the causes of the 1840s depression, recommended changing the process for timber charges, separating timber areas from settlement areas, especially on land that was not good for agriculture, improving the protection of forests from unnecessary destruction and adopting more scientific methods of forest management. There was also the realization that the square timber trade, which left up to 25 per cent of the wood in the bush, was very wasteful.

After confederation, timber regulations were tightened and the province put 20 to 30 rangers in the woods to educate wood workers and to assess cutting practices for waste. During this period, public sentiment began to change in both Canada and the United States. Several books and articles on both sides of the border espoused conservation ideas, and the word conservation was more prominent in discussions and debates on the state and future of the forest. In 1871, the province enacted a law to encourage the planting of trees along highways.

The push for better use of the forest resource escalated during the great wood depression of the 60’s and 70’s - the white pine cut went from 669 mm board feet in 1872 to 270 mm board feet in 1876. The timber industry was urged to move to sawmilling, which was gaining traction as a viable industry. A huge fire in the Ottawa Valley in the early 1880s followed by another one near Parry Sound a few years later gave rise to further requests to strengthen forest protection laws and response. In 1878, *A Bill to Preserve Forests from Destruction by Fire* was enacted by the Ontario legislature. The Quebec government was following the same route with similar legislation.

The First American Forestry Congress was held in Cincinnati, Ohio, in the spring of 1882, with a follow-up meeting in Montreal in August of that year. Ontario sent three official delegates to the Ohio meeting, one of whom represented the Ontario Fruit Growers Association, which was active in pressuring the government to expand forest fire protection. The Congress covered a wide variety of topics on forests and forestry, and fire figured prominently in the discussions. A joint Canada/United States Commission made several recommendations to both governments.

Aubrey White of the Woods and Forests Branch was given the project of providing a plan of action for Ontario to respond to the report of the Congress. His report recommended a ranger force in the field tasked with prevention and response; costs to be \$5,000.00 per year. Shortly thereafter, a ranger force of 37 was implemented, and proved to be highly successful. At the same time, the Ontario Government hired an information officer by the name of R.W. Phipps who wrote copiously about the forest and the need to preserve it. Alexander Kirkwood, a staff member in the Lands Section, vigorously lobbied his superiors to conserve a significant tract of land for the protection of forest, wildlife and water. R.W. Phipps recommended to Kirkwood that the tract of land be centered in the area now known as Algonquin Park. The United States Government had just designated Yellowstone as a National Park and Canada had done the same with a small area in Banff. The Ontario Government had just established a small provincial park in the Niagara Falls area (which later became the genesis for the Niagara Parks System).

There was little response to Kirkwood’s recommendations for a park so he took his ideas to the public. The Ontario Commissioner of Lands and Forests then asked James Dickson, an outside person, to review Kirkwood’s recommendations. He concurred with Kirkwood and added several other recommendations to Kirkwood’s list. The Dickson report led to a *Royal Commission on Forest Reservation and a National Park* in 1892. The Commission made six recommendations, one of which was to create a park, but to reserve the white and red pine for the lumber industry. In 1893, soon after the government received the Commission’s recommendation, legislation was passed establishing Algonquin Park. All merchantable timber was disposed of before the end of that year. Thus was born the first significant provincial park in Ontario.

# *Sylva Recap*

The Ontario Department of Lands and Forests published for many years a journal called "*Sylva*". The purpose of this journal was to highlight changes in policy, individuals and the comings and goings of staff. *Sylva* contains nuggets of forest history that will be selected for each edition of the journal.

## **Life in the Camboose Camps (*Sylva* Vol. 4 (1948):33-38)**

**By J. Pennock**

Having been raised on a Free Grant homestead, I am well aware of the meaning of having to clear land, build buildings, till the soil and reap harvest; not in the manner it is done now, but in the way pioneers did it before the advent of mechanical equipment.

Naturally, bush work was second nature to me and I dealt with it as a hobby rather than a hardship. To enjoy your work you must like it, and when your work is performed as a hobby, with spirit and energy cooperating, success must follow.

My brother and I found ourselves working in lumber camps early in life. I did not choose my work, but rather attempted to do what was asked of me - using as a motto an adage; "The way to get the most out of life is liking to do what you have to do, not always wanting to do what you would like to do". We were engaged as lumberjacks by a large lumber firm known as the McLachlin Bros. of Arnprior, Ontario, who were engaged in a red and white pine sawlog operation in the late nineties, in the Province of Quebec.

The following account of our experiences may give the reader an insight into these early days in the storied camboose camps. After days of slow travel, mostly on foot, a gang of eighty men and several teams of horses reached the depot. On the last day prior to reaching the depot we lunched at a place called Black River Bridge. I was of the opinion that horses fared better than the men. They ate their hay and oats, while the men ate hardtack and drank green tea strong enough to float an iron wedge. We did not feel as sorry for ourselves as we did for an elderly man whose grinders were low, or who probably had no teeth at all. This old lumberjack resorted to a jackknife, cutting the hardtack as a man would cut tobacco to fill his pipe.

The next forenoon arrangements were made for further movements. Timber rafts and boats were loaded with supplies. During the afternoon the rafts and boats were manned and a lake some three miles in length was crossed. Reaching a suitable camping ground, the gang were put to work unloading supplies and clearing sites for tents. The cook lost little time getting to work and preparing a hot supper for the gang over an open fire. Next morning, bright and early, the greater part of the crew was piloted to a ridge by a fire ranger, where choice ironwood was selected for the making of axe handles. Every man brought back materials necessary for the choppers. To make an axe handle is not easy and if you don't believe me just try it. I was in no great danger of losing mine as I was the only one that could use it. It was not pretty nor streamlined, but it did the trick.

By 2 pm that day, several gangs, consisting of six men and one span of horses, were in the bush felling the tall timbers, cutting and skidding logs. Trails and draw roads were opened up. The clearing of a campsite began with the cutting of suitable timber for the camp and stables. The work involved in the erection of these buildings followed. Like the shoemaker's wife going barefooted, lumbermen in those days seldom used much lumber to build with. It was difficult under these conditions to find lumber enough to make the necessary doors with. A camp 36' by 46' covered with scoops and well chinked with moss was completed. A large open fireplace was constructed in the centre where the lumberjacks' meals were prepared. A large opening in the roof above it served as a chimney. The meals consisted mostly of beans, bread and sea pie, baked in the hot sand. The floor was made of balsam poles adzed off on the upper side to make a smoother surface for walking. Practically all the way along both sides and across one end were double

deck "bunks". Each bunk accommodated two men and was furnished with three pairs of blankets; brush taking the place of a spring and mattress.

To allow light in, there were two small windows in the camboose camp. One was located on the side at a writing desk used by the clerk, and the other at one end for the cook, while a lamp was provided for general use.

The dishes, which were tin, forks, knives, bread, cold pork and black strap molasses were placed on a small table. For the rest of the menu you helped yourself from the open pots near the fireplace. Our diet consisted mostly of bread, pork and beans. When you got tired of that, you ate beans, pork and bread. When the weather turned cold, around the latter part of November and the first part of December, beef cattle were brought in on hoof and slaughtered. Beef quarters hung everywhere. The tallow was used for candles and the hoofs for glue. During the winter season we experienced the inevitable December thaw, and you probably know the result. After the thaw the beef turned almost black. The supply of beef and potatoes would run out about mid winter and we would feast on Chicago chicken (barreled pork), which had been buried in the ground the previous summer. It was suspected of having a heavy layer of rust between the fat and the lean.

It has been mentioned that there was little mechanical equipment. In those days men required weak minds and strong backs to endure what they did by way of hardships, but everyone seemed to enjoy it. To illustrate this it may be added that the teamsters used candles stuck in bottles (empty of course) as lanterns while shoeing their own horses after supper. This was necessary because the blacksmith was stationed at the depot some miles away. The forging was done in the camp for all manner of equipment required at that time, even to the making of crosscut saw handles.

The most anticipated method for using loading logs on sleighs were spike skids. Three men bulled logs up these skids until they could put no more on.

To shorten the story, the gang cut and delivered, from the 6th of September to the 20th of March, 65,000 red and white pine sawlogs, representing over six million board feet measure. Men quitting or being fired was almost unheard of, there were few accidents, and little or no sickness. Workmen's Compensation was unheard of, there were no doctors or mail charges to pay, wages were from \$18.00 to \$22.00 per month, and everyone was happy.

Very little similarity remains between the lumberjacks of the early days and the present day lumberjacks. Even in those days some people had a strange conception of what a lumberjack was, as illustrated by the story of a little girl who came running home from school one evening and told her mother a man and a lumberjack had a fight. We take it for granted that the lumberjack won. The old time spirit that entered into the work throughout the winter was shown by the songs they used to sing. They entered their daily tasks with a spirit of cheerfulness that is indicated in the words of the following.

*Every morning just at five  
Our camp is all alive,  
With jolly crew of 80 men or more.  
There is hardtack on the shelf  
You can go and help yourself,  
And good sweet meat that the  
Frenchmen call delor.*

#### **CHORUS**

*Snap, bang, crack, the frost is breaking,  
Frost and snow and trees do moan,  
There's a sea pie in the pot and  
The beans are piping hot,  
That's the glory of our dear old Forest Home.*

## **Timber Making (Sylva Vol. 5 (1) (1949): 23-24)**

**By G. E. Knight**

Much of the first timber taken out in the Ottawa Valley and in the Districts of Muskoka and Parry Sound was white and red pine for "square" timber which was destined for export to the British market. For this purpose, only the choicest pines were taken, as any stick of timber having more than two black knots would be culled by the buyer. The old time axeman could tell by sounding a tree with the back of his axe fairly accurately what it was like inside, and any tree of which he was doubtful would be left standing. A tree having been selected, two axemen would start felling it. There were no saws used in the early square timber days. Some of the old time axemen, in order to save butting off the tree, instead of cutting the "V" of the notch from the top, reversed the process and made the horizontal cut on the top and cut the "V" from in under. This was very hard work and some of these axemen did not last very long.

After the tree had been felled, it was looked over and cut off at whatever length it was thought would make the best stick of timber. The hewer would then estimate how many inches the stick would square, and with his chalk line, he would strike a line from top to butt on one side. A skilled axeman would then score-hack the side to be hewed, almost, but not quite to the line. Then the broad axeman, or hewer as he was called, would come along with his broad axe and hew the side perfectly plumb and to the line. When he was through with it, the uninitiated might think that it had been planed. The stick would then be turned down and the other three sides similarly dealt with.

This was a very wasteful method of lumbering. Besides the large amount of choice timber hewed off in squaring the stick, only a perfect tree would be taken. Although those old time axemen could judge a standing pine tree with uncanny accuracy, they were by no means infallible, and many trees were felled that would not make timber. These trees were left as they fell to rot. This method of lumbering also left a tremendous amount of inflammable material lying on the forest floor and many large fires were directly attributed to this cause.

Waney timber was not quite so wasteful. Instead of squaring the stick and thereby wasting much good material, only a light slab was hewed from the four sides, leaving a wane on the four corners. Thus, trees were taken for waney timber that would not have made square timber. When this square and waney timber reached Britain, it was manufactured into lumber with very fine saws.

Many thrilling tales have been told by the river drivers who guided the great rafts of square and waney timber down the Ottawa River into the St. Lawrence and to Quebec, where it was loaded on ships for export to Britain.

With the making of square and waney timber proving so wasteful, sawmills began to spring up in the forested country. The timber was brought to them in the form of logs, usually from ten to eighteen feet in length, and these sawed into timber. The square and waney timber trade died out shortly thereafter. The hey-day of lumbering, in so far as the lordly white pine was concerned, both in Canada and in the United States, was reached in the early 1890s, when in one year, over ten billion feet of sawn lumber was manufactured. Since that time, production has steadily declined, and except on the Pacific Coast of Canada and the United States, nearly all of the big sawmills have disappeared.

And so the days of the 200 to 300 year old "big sticks" are gone, and the days of the square and waney timber are little more than a distant memory. Man has reaped the accrued harvest of Nature's bounty, and now faces the need for his active part in the replenishment of the application of good principles of forest management. We live in a hiatus, but the day will come when fine merchantable timber trees will again clothe a goodly proportion of the land of our native Ontario - if we will it so.

# Events and News

## Events – Past

### Annual General Meeting, Forest History Society of Ontario

The fifth annual general meeting of the Forest History Society of Ontario was held on February 20, 2014, at the Nottawasaga Inn in Alliston. The guest speaker was Peter Hynard, a forestry consultant in the Minden area whose topic was “Documenting Unwritten Forest History”. Peter’s talk is included in this issue of *Forestry*.

Here are the key points from the meeting:

- The Society is still pursuing opportunities to become a registered charitable organization
- Peter Hynard will continue to work with the Minden Hills museum regarding support to mount a forest history display
- York Region essay contest is moving forward
- Frank A. MacDougall memorial and trust fund projects moving forward (see more below)
- Finances are in order; Bob Burgar appointed as auditor for upcoming year
- Journal is doing well; Sherry Hambly is resigning as editor at the end of 2014 but will stay involved
- Website needs work to make it more appealing; databases not being populated
- The Society has developed a strategic plan for review
  - o Focus on partnering with local organizations
  - o Search out provincial opportunities
- Forestry Chronicle- May/June issues focused to Canadian forest history
- June - Canadian Forest History Month – invitation to provincial organizations to have something to celebrate
- Celebrations at Algonquin Park for the 100<sup>th</sup> anniversary of the eastern addition to happen this July
- 40 years of the AFA

Other business at the AGM included the resignation of the Chair (Ken Armson) and the Editor/Webmaster (Sherry Hambly). Mark Kuhlberg was elected as the new Chair, and assumes his responsibilities immediately. Sherry Hambly’s resignation takes effect at the end of 2014. Sherry will remain as Webmaster and will continue to be involved in the Society in other capacities. Ken will also stay involved in the Society. The other Directors and Officers remain.

### Frank A. MacDougall Forest History Trust Fund

As announced at this year's Annual General Meeting of the Forest History Society of Ontario on February 20, the Frank A. MacDougall Forest History Trust fund has been opened by Forests Ontario. The Forest History Society of Ontario is fully supportive of this initiative and asks that members and others interested in supporting the Frank A. MacDougall Forest History Fund make their contributions payable to:

Forests Ontario  
144 Front Street West, Suite 700  
Toronto ON  
M5J 2L7

Contributors need to note that it is for the Frank A. MacDougall Forest History Fund. Forests Ontario will issue a charitable receipt for the amount received. The purpose of the Fund is to provide financial support for projects and activities that can further the knowledge and understanding of Ontario's forest history in all its aspects. The first project to be funded is the Frank A. MacDougall Memorial Project.

### Frank A. MacDougall Memorial Project

Frank MacDougall graduated in forestry from the University of Toronto in 1923 and began his career with the Ontario Department of Lands and Forests in Pembroke, then in Sault Ste. Marie from 1926 to 1931. He served as the Superintendent of Algonquin Park from 1931 to 1941 when he was appointed Deputy Minister of the Department and was the longest serving Deputy Minister until his retirement in 1966.

Although publicly he is remembered for his years in Algonquin Park, his contributions to forestry in Ontario included departmental organization on a regional basis, establishment of the Forest Insect Laboratory at Sault Ste. Marie, the Kirkwood Forest, the Forest Ranger School and the Diploma in Resources Management at the University of Toronto.

To honour and celebrate his achievements The Forest History Society of Ontario is planning to establish a memorial to Frank A. McDougall. As part of this project the Society wishes to place memorabilia associated with Lands & Forests forestry activities and programs during this period in a semi-permanent display. The Canadian Heritage Bushplane Museum in Sault Ste. Marie is the proposed location.

Any person who has personal or other items related to Mr. MacDougall and his time with the Ontario Department of Lands and Forests who would consider donating them for consideration in such a display should contact The Forest History Society of Ontario and provide a list and description of the items they could contribute:

Forest History Society of Ontario  
Frank A. MacDougall Memorial Project  
c/o Forests Ontario  
144 Front Street West, Suite 700  
Toronto, Ontario M5J 2L7  
E-MAIL: [info@ontarioforesthistoria.ca](mailto:info@ontarioforesthistoria.ca)



June is Forest History Month: <http://niche-canada.org/2014/06/06/june-is-forest-history-month-special-issue-of-the-forestry-chronicle/>

The Forestry Chronicle focuses on forest history: <http://pubs.cif-ifc.org/toc/tfc/current#d1836e91>

## Forests Ontario

Trees Ontario and Ontario Forestry Association announced their merger on March 9, 2014 to form a new organization called Forests Ontario. The merger will enhance capacity and programs devoted to sustaining Ontario's forests. The news release describing the merger can be found here:

<http://www.forestsonario.ca/news/index.php/news-merger>.

## Zavitz Award Bestowed on John Bacher

The Ontario Professional Foresters Association (OPFA) bestowed the Zavitz Award on John Bacher at their 2014 annual meeting in Thunder Bay. John received the award for his long time support of forest conservation. John has written a book on Edmund Zavitz and has supported several local organizations devoted to conserving Ontario's forest heritage. OPFA's David Milton also noted John's work with foresters across the province who are tree by-law enforcement officers. Within Niagara Region, where John lives, this work contributed to securing an improved tree by-law and the protection of a forest that contains two threatened species, the Round-leaved Greenbrier and the White Wood Aster. John's Niagara Region Greenbelt work involves raising Greenbelt awareness and support for the Greenbelt Act heading toward the 2015 Review of the Act. John is currently involved in Ontario Municipal Board hearings addressing natural ecosystem protection and the threat of encroaching sprawl development in Niagara, and he is Chair of the Niagara Restoration Council. As Chair of Greening Niagara, John has assisted members on the Niagara Heritage Tree Hunt, the Niagara Fruit Tree Trail, and participated in the protection of several sites. He is an outstanding example of one person making a difference.



Dave Milton, Interim Executive Director, OPFA, presents Zavitz award to John Bacher. Photo by Mary Lou Bacher.

## Events – Upcoming

### Fort Frances Museum Display

From May to August this summer, the Fort Frances Museum will commemorate over 100 years of forestry in the region with an exhibit and speakers series that will recognize the contributions of papermaking and wood harvesting. More information on this exhibit is available here: <http://museum.fort-frances.com/>.

### Canadian Urban Forest Conference

September 30 - Oct. 2, 2014  
Victoria, British Columbia  
More information is available here:  
<http://www.cufc11.ca/en/>.



## About the Authors

**Ken Armson:** Past Chair, Forest History Society of Ontario; Professor of Forestry, University of Toronto, Chief Forester, Ontario Ministry of Natural Resources; Forestry Consultant; Author.

**John Bacher:** Historian and environmentalist from St. Catharines, Ontario; author of *Two Billion Trees and Counting: The Legacy of Edmund Zavitz*.

**Sherry George:** Curator of the Fort Frances Museum and Archives.

**Mary Grunstra:** Has a bachelor's degree from the University of Toronto (UofT) in History, Botany, and Zoology and a Master of Forest Conservation; and a Master of Spatial Analysis from Ryerson University. Working as a research assistant at the Fire Management Systems Laboratory, Faculty of Forestry, UofT.

**Sherry Hambly:** Retired Manager, Ontario Ministry of Natural Resources; Editor (*Forestry*) and Webmaster, Forest History Society of Ontario.

**Peter Hynard:** A practicing forester with a degree in forestry from the University of Toronto and over 40 years of experience in the field. He currently works as a forestry consultant in the Minden/Algonquin area.

**Mark Kuhlberg:** Chair of the Forest History Society of Ontario and Assistant Professor of History, Laurentian University. Author of books and articles on forest history.

**Ken Plourde:** Retired forester who contributed significantly to forestry and forest organizations across Canada for over 50 years; now dedicates his time to preserving the remarkable story of this great industry.

**Maurice Serano:** Executive Assistant in the Office of the Chief Privacy Officer and Archivist of Ontario.

**Dolf Wynia:** Retired Nursery Superintendent and Volunteer with the Port Rowan / South Walsingham Heritage Association.

# Forest History Society of Ontario

## Membership Form

The mission of the Society is :

"To further the knowledge, understanding and preservation of Ontario's forest history" and accomplish this with the following objectives:

1. To preserve forest and forest conservation history;
2. To encourage and further the development and recognition of forest history;
3. To support research and studies of forest history;
4. To support the archival preservation of records and materials relating to forest history, and
5. To promote the better understanding of forest history through public education.



### Projects of the FHSO

**Catalogue of publications:** available on the website, this catalogue includes all aspects of Ontario's forest history and members can submit contributions.

**Collections listing:** Collections and materials relating to Ontario's forest history are identified and listed on the website. The Society works with established archives such as the Archives of Ontario and several university archives in facilitating the preservation of significant collections.

**Forestry Journal:** The Society publishes a journal available to its members, the *Forestry*, twice a year – Spring and Fall – containing informative articles on forest history in Ontario.

**Frank A. MacDougall Forest History Trust Fund:** This Fund provides financial support for projects and activities that can further the knowledge and understanding of Ontario's forest history in all aspects. All cheques should be made out to "Forests Ontario" and noted with "Frank A. MacDougall Forest History Fund"

.....  
Please return this portion to the FHSO with your payment to the address listed below.

Name			
Address			
City	Province	Postal Code	
Phone	Email		

\*Please note that the FHSO only accepts credit card through the online PayPal system. Cheque or cash only by mail- please make membership cheques payable to the Forest History Society of Ontario.

Frank A. MacDougall Trust Fund cheques should be made payable to Forests Ontario to be eligible for a charitable tax receipt.  
Charitable No. 89857 2862 RR 0001

### Payment Information:

- FHSO Annual Membership: \$45.00
- FHSO Student Membership: \$15.00
- Institution / Corporate: \$100.00
- Forests Ontario/ OWA / OHS Member \$30.00

Please make cheque payable to:

Forest History Society of Ontario  
144 Front Street West, Suite 700  
Toronto, ON M5J 2L7

Visit [www.ontarioforesthistor.ca](http://www.ontarioforesthistor.ca) to join or renew  
[info@ontarioforesthistor.ca](mailto:info@ontarioforesthistor.ca)