



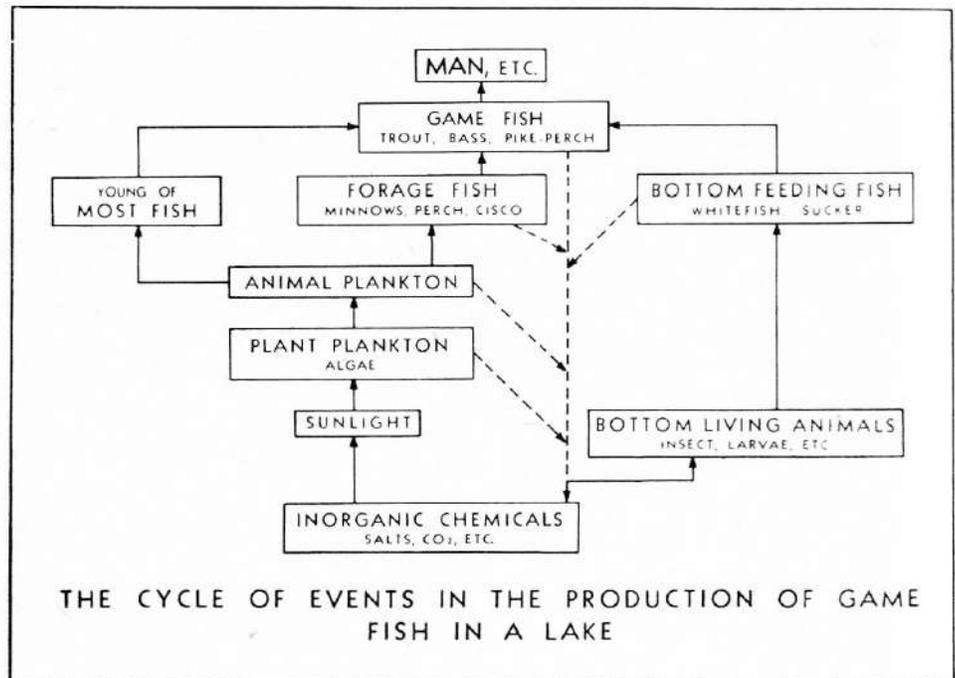
Forestory

Volume 11, Issue 2, Fall, 2020

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Sylva Recap: Fisheries Research in Algonquin Park ...and lots more inside



From an article about fisheries research in Algonquin Park, *Sylva*, 1948. (for more details, see page 34)

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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

By: Rob Galloway, R.P.F. (Ret.)

Well, we did get our Annual Meeting done in February (Thanks Forests Ontario) but COVID shut us down not long after that. One thing we did get done and really enjoyed was our project to be a part of the CIF conference, our member Jim Farrell worked on this with Mark Pearson of the CIF and ended up with a very successful virtual Forest History session as part of the Conference. Our member Faye Johnson, R.P.F. agreed to be the moderator and Jim Farrell worked hard to get speakers from BC, Alberta and Quebec.

Thanks to both Jim Farrell and Faye Johnson for doing an excellent job and we hope Forest History Societies will be a regular part of CIF meetings in the future. Perhaps not in the COVID style or time frame.

St. Williams Forest Interpretive Centre will be closing. This will be a loss of a long History at St. Williams. We will be making a big effort to ensure all documents and pictures are archived as best as we can do. Thanks to volunteers working towards this.

As we move towards a new strategic plan we also need to figure out how we can appeal to more people as members and to more funding sources that may be available.

That is all we have got to so far but more planned depending on COVID times. Our Board will meet again on December 10th and we will have to wait to see if the COVID rules will allow our annual meeting in person or if we will be able to do it virtually.

I would like to thank Dave Lemkay for chairing (at the last moment) this fall when COVID worries and my son caused me to have to miss the meeting at the last moment.

We are all good and healthy and would like to wish others a safe time and take care and stay healthy.

Very different times we are in this year but the Forest and the Forest History can help us through these trying times.

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 Caroline Mach, R.P.F. at carolinemach@hotmail.com. Deadlines are April 1 and October 1.

Forest History Society of Ontario Facebook Page Update

By: Sherry Hambly

We are very happy to announce that our facebook page has received 1,000 likes! The people who have liked our page come from around the world.

Our Facebook page is used to share other Facebook pages related to various aspects of forest history, links to our journal *Forestry* and to announce upcoming events.

We occassionally receive questions or comments about forest history on our page, which we endeavour to answer as soon as possible.

If you haven't already, please visit our page and "like" it. And if you have something of interest to post or share, please do so. You can find our page here:

<https://www.facebook.com/forest.history.society.of.ontario/>

The FHSO Facebook page is managed by Sherry Hambly. If you have an item you would like posted to the page and do not have a Facebook page yourself, please let Sherry know at fhsowm@gmail.com and she will post it for you.

Forest History Society of Ontario (FHSO) Publications Database

By: Sherry Hambly

One of the prime visions in the early days of the FHSO was to develop and build two databases - one that contained information on media (especially publications) related and relevant to Ontario's forest history; the other to contain information on archival material related to Ontario's forest history. Both databases were successfully built and launched on the FHSO website. Both databases are located under the Preserve tab on the FHSO website. Both databases are active and accepting records. The entry process is very easy and walks the user through it.

This note is an update on the status of the Publications Database. To date, there are over 600 citations about Ontario's forest history in this database. All articles published in the FHSO journal, *Forestry*, have been entered into the database.

The database can be searched by author, title, keyword and subject category. The results of a search can be printed in a proper history citation format and/or downloaded in a file format that can be imported into excel and then arranged to suit the searcher. As well, the full database can be downloaded if desired.

The FHSO is very interested in populating this database to the fullest extent possible. In particular, the FHSO is looking for members to provide information on local media sources (books, journal articles, newspaper articles, videos etc.) on local/regional forest history - either to have you enter the data or send the information to the FHSO Webmaster (Sherry Hambly) at fhsowm@gmail.com to have it entered into the database.

Additional Resource on the FHSO Website

A table, FRONTIER COLLEGE LABOURER-TEACHERS IN ONTARIO LOGGING CAMPS 1900-1970, to accompany the following article published in *Forestry*: Frederick Keenan, "Frontier College in the Logging Camps of Ontario, 1900-1970", *Forestry*, Volume 11, Issue 1, Spring, 2020, pages 17-23. The table can be found at: http://www.ontarioforesthistor.ca/files/Frontier_College_LTs_in_Ontario_logging_camps_2rev.pdf

Toronto Heritage Oak Campaign

By: Dave Lemkay

I have been encouraged to reach out with a summary of the Toronto Heritage Oak Campaign, a project to save and preserve an impressive 250 year-old red oak. I am involved with the committee established to work with the City of Toronto, through its Office of Partnerships, to appeal to local citizens and others to raise the funds necessary to buy the property that this tree stands on at 76 Coral Gables Drive in North York. The plan over time is to demolish the existing non-descript house and designate the property as a heritage site with the creation of a small parkette.

The City of Toronto will engage with the purchase with certain matching funds if and when the amount of \$430,000 has been raised by concerned people and organizations. To date, about \$130,000 has been raised which includes a \$100,000 pledge from gardening guru and writer Mark Cullen and his wife, Mary. "If we don't make an effort to save [the tree], then what does that say about who we are as a society and as a city?" Mr. Cullen said. "What does that say about what we value of our history?"

This tree is at least 250 years old. It stands twenty-five metres high and has been given a clean bill of health. An arboricultural assessment of the tree was performed by Urban Forest Innovations Inc., an independent arborist firm, to determine the viability of the tree over the long term. In a report dated June 25, 2018 the arborist's overall analysis of the tree has revealed that despite its age, the tree is in fair to good condition, based upon its structure and health. Aerial and tomographic inspection of the tree has determined that it has no significant structural defects and poses a low risk of failure.

Beyond the dedicated groups and individuals who are working tirelessly to make this project a success, it is felt that the forestry sector (tree people) in Ontario and beyond will have an affinity to being supportive. Associations in the forest milieu and their members can make a significant impact. Spreading the word through newsletters so readers can consider making a donation is the intent of this report.

For more information visit: <http://www.toronto.ca/redoak>



Sawdust Burners in Ontario

By: W.D. McIlveen

Sawdust Burners in Ontario

Every forester naturally knows that the vast majority of trees that are cut for lumber are round. The vast majority of finished lumber though is square or rectangular. This can only mean one thing – that there is a large portion of the log that is waste, no matter how carefully that log is handled. The basic waste consists of bark, slabs and edgings, and sawdust but internal defects could reduce the amount of wood that can be used. While many uses have been found for it in recent times, that waste constituted a significant problem in yesteryears. Disposing of the waste in those earlier years is the central focus of the present account.

A 1920 estimate was that only 40% of a log was turned into a desirable wood product. A part (23%) of that lost material was in the form of sawdust. Estimates of waste from B.C. logs during the 1930s provided by Jenkins (1939) suggested that approximately 25% of a log was waste. Even at 25%, this amount of unusable wood represents a very large volume of wood. Of course, the size of a sawmill operation dictates the amount of waste that is generated. Despite the operation size relationship, the question becomes how to properly handle the waste that accumulates. The present article discusses one method that was once a significant improvement for the disposal of the wood waste.

Initially, sawmills were established on rivers that could be used to power the saws. Later sawmills were powered by burning some of the waste. The rivers might also be used to serve additional services. One was to bring logs from the source area to the sawmill. This was a generally-acceptable practice in older times. The last service was the use of the river as a disposal site for the waste. Even in older times, such acts were frowned upon by the majority of local residents. It was this disapproval that forced the next stage in handling of the wood waste.

Historical Aspects of Sawdust Burners

The whole issue of improper disposal of sawdust has been reviewed by Beale (2020) and by Gillis (1986).

The Parliament of Canada first passed the *Fisheries Act* in 1868. That Act was created under the constitutional authority provided by the *Constitution Act, 1867*. The *Fisheries Act* sought to conserve and protect Canada's sea coast and inland fisheries. This was to be done to ensure that there was no negative alteration of fish habitat and that there be no deposition of deleterious substances into water bodies frequented by fish. Although there have been changes over time, it was the early versions of the Act that have application for our present account.



Figure 1: Old sawdust deposit on bank of Rainy River, date unknown.

As noted above, some sawmill owners relied on rivers to dispose of their waste. This resulted in places where large amounts of sawdust accumulated (Figure 1). Such a practice was no longer permitted under the *Fisheries Act*. In

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1880, sawmill owners on the Ottawa River were exempted from the 1873 Act's prohibition on the dumping of sawdust; a similar exemption was made again in 1885. A principal mill owner was the iconic lumber baron, J.R. Booth. A photograph of the sawmills on the Ottawa River noted as "around the turn of the century" provided by Niall MacKay (1981) shows the presence of a silo-type sawdust burner within the sawmill operation. This would suggest that the Booth sawmills were no longer allowed to treat the river with the same impunity they had a couple of decades earlier.

A challenge to the protections offered by the *Fisheries Act* took place at BalACLava in eastern Ontario. The situation involved a sawmill erected at BalACLava in about 1855. The operators had obviously been depositing sawdust into the Constant River for some time. The family of William Richards operated the mill for many years after 1868. The challenge was made by William Hunter who had built a grist mill two kilometres downstream of the dam. He complained in a lawsuit that between 1904 and 1909, sawdust from the upstream sawmill was negatively affecting his gristmill operations, that Constant Creek was being fouled by the usage of the sawmill, that the flow of water in Constant Creek was impeded, that the defendant disposed of refuse in the creek and that he, as the plaintiff, suffered injury as a result. The lawsuit was heard in 1911. The net result was that the sawmill was found guilty of polluting the Creek and was ordered to cease its harmful activities within four months. To comply, a sawdust burner was installed (Figure 2). Claims are made (Swayze, 2007) that this 1911 decision resulted in the first sawdust burner to be installed at a sawmill in Ontario. This claim is inaccurate as the attached photographs show sawdust burners were already operating in Ontario for over 30 years at the time of the BalACLava decision.

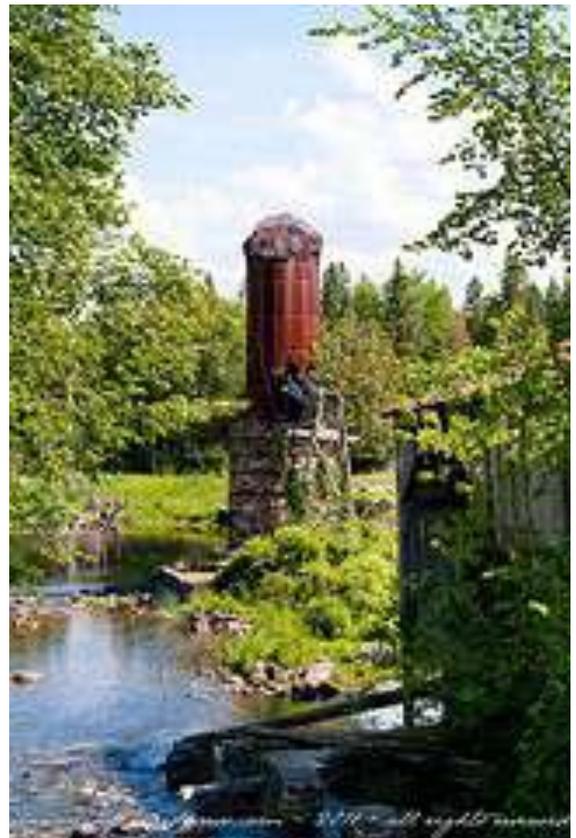


Figure 2: Sawdust burner at former BalACLava Mill, 2007. P. Djajkovski.

An earlier, but separate, case had involved sawmills on the Otonabee River in Peterborough (Jones, 2011). At least three sawmills had operated there starting about 1858. After dumping mill waste into the River for nearly 30 years, the result was extensive fouling of the River and mill waste filling up Little Lake and especially Spaulding Bay to the extent that boats could no longer pass. As a consequence, an Anti-Sawdust Association was formed and operated from 1885 to 1886. They successfully sued the mill owners but the mills claimed the price to act responsibly was too costly. The end result was that the mills slightly reduced the output of waste to the river and that Little Lake had to be dredged several times. By current standards, this would seem highly unacceptable. Installation of burners had been considered but no burners were ever established as was done at BalACLava.

The Burtis sawmill operated at Thessalon from 1903 to 1912 when it burned down. From the earliest time, the mill was supplied with a silo-style burner so we have no reason to suspect that any of the waste was purposely dumped into Lake Huron. And yet sawdust particles could be seen at the bottom of waves coming ashore at that very same location about 90 years later. This is evidence that wood waste that ends up in water, even accidentally, can persist there for a very long time.

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Sawdust Burner Designs

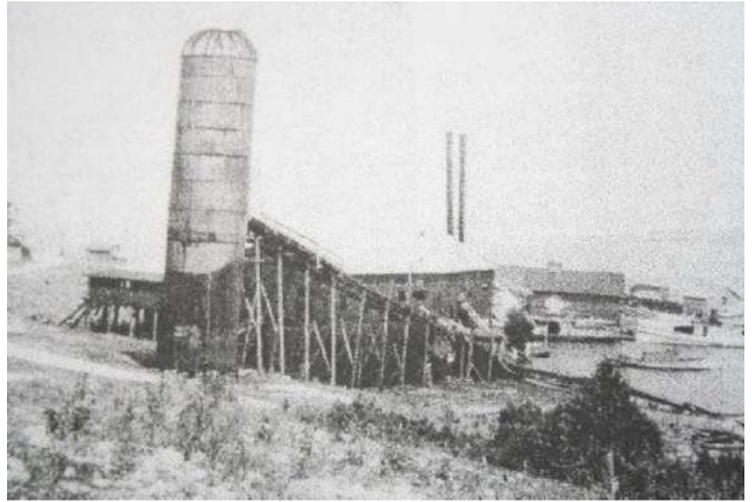
We have no specific records regarding the earliest attempt to eliminate sawdust by burning. It might well be that such burning was done in a pile on the ground, in a pit created for that purpose, or in a confined space generally resembling a building basement. These conditions would have represented a significant fire hazard depending upon the distance from the mill. In addition, the smoke would have been emitted at ground level where many mill employees were working. After this, metal structures were built above and containing the burning piles. Figure 3 is a postcard of the Meldrum Bay sawmill dated 1880s showing a sawdust burner of the metal silo type fitted with a top screen. This is more typical of the burners that were in operation about 25 years later. By comparison, the photos of other early types of burner indicate designs where the bottom half of the burner is a metal silo. Above this, the diameter diminishes considerably. The overall appearance resembles a giant bullet (Figures 4 to 6). Presumably, the designing engineers had determined that this was an efficient enough burner to handle the waste.

The next age of burner design produced cylindrical or silo type burners (Figures 7, 8, 9, and 12). These were topped by a hemispherical mesh structure to contain the sparks or burning wood chunks that developed within the burning chamber. Such materials would have been a fire threat to surrounding woodlands, nearby buildings, or indeed the mill itself. Not infrequently, the hemispherical dome had a smaller mesh dome on top (Figure 12).

The newest design for the burners was almost exclusively a conical structure, again topped by the mesh cover (Figures 10 and 11). The design is described as a teepee, a wigwam, or a beehive style burner, depending to a large extent on the geographic area in which they were erected. This same design was used widely across many parts of the lumber-producing areas of North America.

Air Pollution

We have few photographs that were taken while



Postcard of Meldrum Bay mill. Vintage 1880s.

Figure 3: Sawdust burner at Meldrum Bay, 1880s.

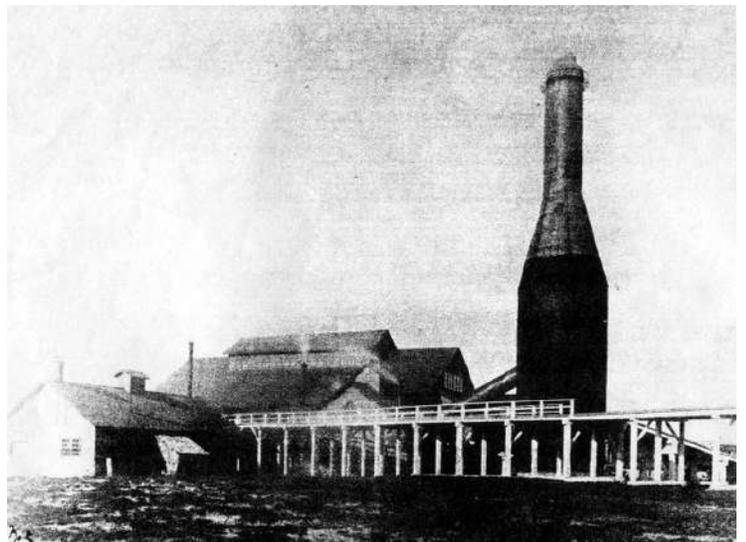
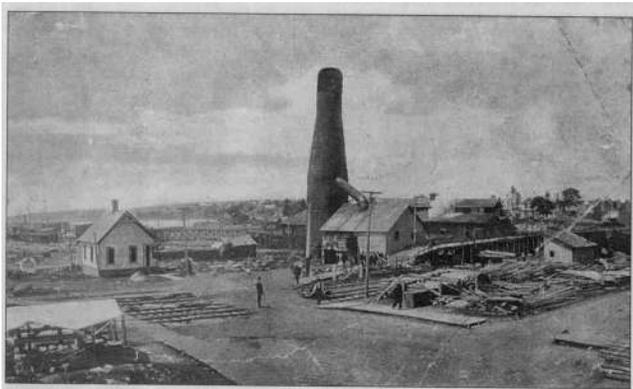


Figure 4: Sawdust burner at Waubaushene Lumber Mill, 1883.



Figure 5: Sawdust burner at Parry Sound Lumber Company, Parry Sound, 1900.

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The first Blind River Sawmill, also referred to as "Le Petit Moulin", was built in 1853 and destroyed by fire in 1911 after nearly sixty years of use. This is the current site of the Old Mill Motel.

Figure 6: Original sawdust burner at Blind River, pre-1911.



Figure 7: Sawdust burner at Thessalon Lumber Co., Nestorville, 1910. HPM081717.

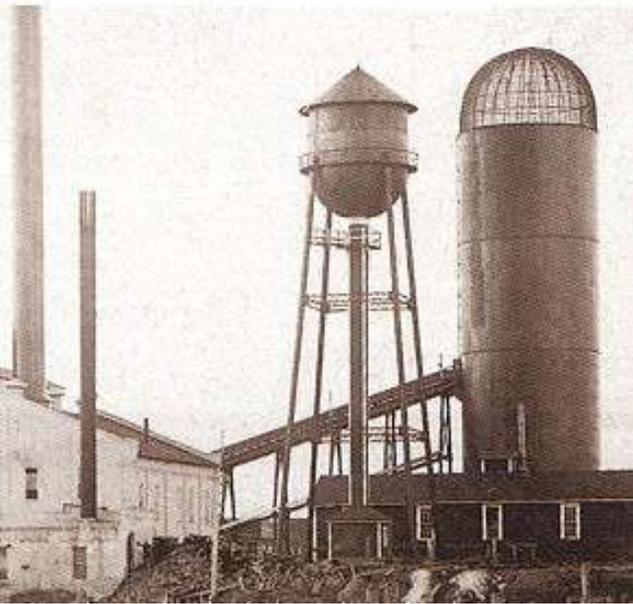


Figure 8: Sawdust burner at Rainy River Mill, 1910.



Figure 9: Sawdust burner at sawmill located at Field, Ontario, 1976.



Figure 10: Sawdust burner in operation at Levesque Plywood, Hearst, July 22, 1976.

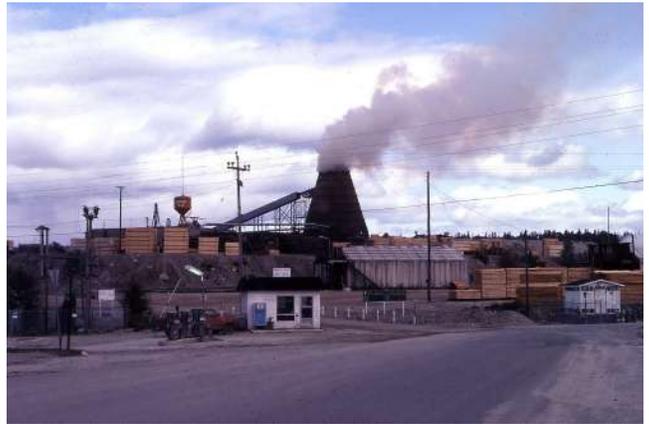


Figure 11: Sawdust burner in operation at Dubreuil Lumber, Dubreuilville, September 14, 1983.

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the older style of burners was in operation (Figure 7). By comparison, there are many pictures where the newer style of burner was emitting smoke in varying quantities (Figures 10 and 11). The discrepancy may simply be related to the increasing abundance of cameras in more recent times. Assuming that the burners all produced roughly similar quantities of smoke, the older styles may have been a lesser local nuisance because the point of smoke release was higher and so the smoke could disperse more readily.

While emissions from any sawdust burner may have seemed tolerable in older days, perhaps because the mills were mostly in locations removed from human populations, they obviously did exceed more modern emission standards. Sampling of snow has been done around several burners operating in Ontario as an effective means of assessing emissions to the environment (Racette, 1983; Racette, 1987, McIlveen, 1998). In the McKenzie Forest Products case, it was very obvious that wood char from the burner was being deposited on the snow downwind from the sawmill. The zone of contamination was evident as a dark stain on the snow surface on the lake up to about one kilometre from the mill. This visible material would only represent the most recent deposit of accumulated wood char and similar materials. Earlier deposits would be buried within the snow profile. Fresh snow would cover this layer but the material from the entire impacted area would enter the lake when the ice melted in the spring. It would be expected that the same type of materials would also enter the lake in the ice-free period any time the burner was in operation. This is no longer a concern since the mill has been closed due to forest cutting rights not being available.



Figure 12: Sawdust burner at Blind River, Sept 5, 2017.

Teepee burners had obvious smoke issues, particularly during the normal start-up on Monday mornings. Later, as the internal temperature rose, the combustion was more complete and less smoke was generated. In the town of Hearst, for example, the local Heath Unit grew concerned over the increase in asthma cases, particularly because the burner producing the smoke was located in the middle of the town. At about the same time, air quality regulations passed by the Government of Ontario demanded that wood waste burners operate at 1000°C for a one second residence time. None of the existing burners could meet the new guideline. While some burners may have operated for a period of time beyond the introduction of the new specifications (e.g. grandfathering), eventually they all closed due to non-compliance with the Environmental Approvals process.

While the sawmills may have lost the option of burning the waste, they did have some alternate methods to deal with the problem. The waste, as always, still contained some considerable combustible materials. This material could be burned to fire boilers or could be converted to compressed logs for fireplaces or into pellets for other burning and heating. Some waste could be used as additions to pulp mill stock or for certain types of particle board. One final alternative was to haul it away to a proper landfill for burial. Now, at least, no one would ever consider dumping the waste into rivers as had been done in the earliest years of the industry.

(Continued on page 11)

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A True Environmental Pioneer: George Meredith Linton and the Orono Tree Nursery's Nascent Years¹

**By: Dr. Mark Kuhlberg
Past Chair, FHSO**

As we consider how best to tackle the formidable environmental challenges we face today, it can be beneficial to draw upon lessons from our past. Today, an individual might be inclined to feel powerless given the severity of the problems, but we can take solace from the stories of individuals who have gone before us and acted as environmental warriors long before it was in vogue to do so and despite the odds of them succeeding.

George Meredith Linton was one such individual. A forester by training, Linton was responsible for establishing and then operating the forest tree nursery that the Ontario government established roughly a hundred years ago in Orono, a small village located between Peterborough and Toronto. While this was a major practical undertaking unto itself, the government also charged him with another, arguably more important, responsibility. Major sections of southern Ontario were suffering from the deleterious impacts attendant upon wanton deforestation and were thus in dire need of being replanted. Nevertheless, there was surprisingly little political or public interest in carrying out this type of work. As a result, Linton was compelled to foster support among the local residents and elected officials for reforesting the degraded tracts in their district by waging a comprehensive and unending publicity campaign, a task he diligently performed. Linton was thus a bona fide environmentalist a good half century before the label had even been coined.

*

Looking at the urban sprawl that is southern Ontario today, it is difficult to imagine the magnificent woodlands that formerly blanketed it. Prior to the arrival of Euro-Canadians, this region was home to what was Canada's most diverse forest. Its southernmost sections were found within the Carolinian or Deciduous Forest Region, which represented southern Ontario's most favourable growing regime. Bordering three of the Great Lakes – Huron, Erie and Ontario – and the rivers that connect them, it supported nearly six dozen species of broad-leaved trees. They included everything from the more common basswood and white elm to a token smattering of much more exotic-sounding trees such as magnolia, paw-paw, black gum and tulip. The rest – and by far greater part – of southern Ontario was within the Great Lakes-St. Lawrence Forest Region, whose climate was cooler and soils generally shallower. A variety of conifers and deciduous species grew in this region, which was marked by rugged, undulating terrain, frequent rocky outcrops and sandy plains. The latter two site types were often defined by stands of white and red pine, while hardwoods such as beech, sugar and red maple, and red oak predominated on its deeper soils.

The Indigenous Peoples certainly created disturbances in this pre-Contact forest, particularly in areas in which they practised agriculture. The Wendat, for example, farmed extensive tracts of the sandy plains in present-day Simcoe County. At any one time it was estimated that they were working clearings that totalled roughly 3,400 hectares. Nevertheless, the relatively small size of their populations meant that their overall impact on the woodlands was generally limited.²

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The story has been told repeatedly, how the situation changed dramatically beginning just after the turn of the nineteenth century, however, as the advent of waves of permanent Euro-Canadian settlement took an immense toll on southern Ontario's environment. Homesteaders generally saw the trees as their enemies because these woody plants stood between them and operating a potentially prosperous farm. They thus razed most of the forest cover they encountered to carve out fields for farming and logs for milling. Although homesteaders had a bit of insight about which trees grew on the best farmland, they often cleared land indiscriminately. This resulted in them denuding a wide range of soils, some of which were nothing but deep sands that were best suited to supporting the stand of trees with which they had originally been covered. Settlers could sow and reap crops from these sites for only a few years before they exhausted these generally infertile tracts. The frustrated farmer would then be left with little choice but to abandon the "wasteland" and move on in the hope of finding and clearing greener pastures elsewhere. The widespread deforestation in general and the clearing of the sandy plains in particular caused major environmental issues that were increasingly severe by the mid-1800s. Rivers dried up and water tables dropped, flash floods and erosion became common, and winds blew the sands onto roads and made them as impassable to human and horse traffic as snow drifts did in winter.

These issues appeared on the Ontario government's radar beginning in the years immediately after Confederation and grew stronger thereafter, but for decades the politicians were disinclined to take meaningful action to deal with them. Various farming organizations began lobbying provincial officials to undertake a treeplanting program to address the issue, but to little avail. The Ontario government merely passed a few ineffective laws and established a very small tree nursery at the Ontario Agricultural College (OAC) in Guelph. In 1899, a provincial royal commission recommended farmers reforest their marginal and submarginal lands, and a few years later a farmers' lobby group called for the provincial government to provide the seedlings for this work. In the early 1900s, the government started taking more effective action in this regard when it hired Edmund John Zavitz to start a forest tree nursery at the OAC; his lifelong commitment to treeplanting in the province would earn him the title of "Father of Reforestation" in Ontario. He began handing out free seedlings to

landowners in an attempt to get them to reclaim their wastelands and restock their woodlots, and the government launched a limited seed collection program. While it was creating its Faculty of Forestry, which opened in 1907, Zavitz was touring and mapping the sections of southern Ontario that were most adversely affected by land-clearing, namely Norfolk, Simcoe, and the United Counties of Durham and Northumberland (Figure 1). Zavitz's iconic report on the subject urged the government to begin facilitating the replanting of these large tracts and the smaller ones within what was otherwise good farmland. Integral to his plan was a call for the government to

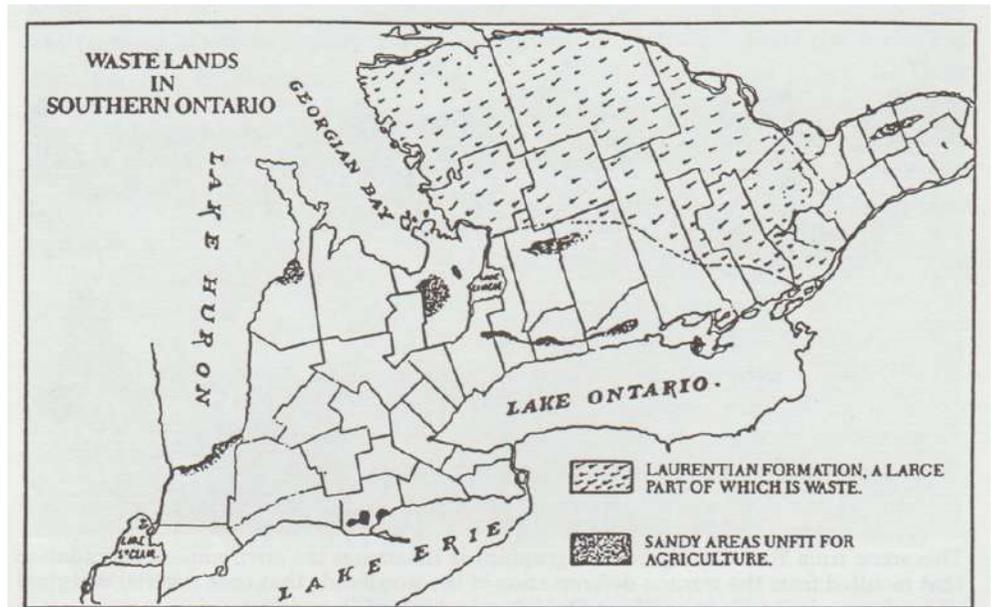


Figure 1: Map from E.J. Zavitz's Report on Wastelands in southern Ontario. (Source: *Report of the Reforestation of Waste Lands in Southern Ontario*, 1908, 4).

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establish forest tree nurseries on or near these wastelands, the seedlings from which would rehabilitate them. The Ontario government established its first Provincial Forest Station (i.e., tree nursery) at St Williams in Norfolk County in 1908, but it was still taking relatively little meaningful action to rehabilitate the wastelands, a situation that persisted until after the First World War.

The year 1919 saw a number of auspicious forces coalesce and raised the reforesters' hopes that they would now be able to overcome this inertia. First, the government needed to find work for the thousands of veterans who were demobilized, and hiring them to work on conservation projects would help address this issue. Ernest C. Drury had also entered politics, and had led his United Farmers of Ontario (UFO) to victory in the election of 1919. He and his party were both fervent adherents to reforesting those parts of southern Ontario that needed it, a campaign that Drury's long-time friend and fellow treeplanting adherent, Edmund Zavitz, had long wished to carry out. Moreover, the wake of the war witnessed a growing interest in forestry and conservation in Canada.

While the UFO certainly enjoyed some success in moving the reforestation campaign in southern Ontario forward, the lack of public support for the effort limited what the government accomplished. The UFO passed new legislation that, among other things, authorized the government to enter into long-term agreements with land holders – public and private, large and small – whereby the government would do the reforestation work at its expense as long as the property owner kept the tract under tree cover. In some instances property owners would have to plant the trees but the government would provide the seedlings free of charge. Drury's government also established a seed collection and extraction centre in Angus (near Barrie). Arguably most importantly, the UFO funded the construction of two new Provincial Forest Stations (PFSs) on or near major belts of blow sand. Not only would they provide the growing stock for local treeplanting efforts, but the sites were large enough to support demonstration plantations to propagandize the cause. Nevertheless, Drury had to overcome stiff resistance to implement these measures. For example, it took him several years to generate the support for them, and even then he was only able to muster relatively meagre funding for reforestation.

Nevertheless, the UFO had taken the steps to construct two new nurseries in the province, one of which was slated for the village of Orono in the United Counties of Durham and Northumberland. The latter were in dire need of an injection of environmental help. Located amidst several large tracts of blow sands, farmers had abandoned these areas in droves after they proved uncondusive to farming. The area was also suffering from all the worst effects of the wanton denuding of the landscape (Figure 2).



Figure 2: An example of some of the worst environmental damage caused by the wanton deforestation in Durham and Northumberland Counties (Courtesy of Orono Crown Lands Trust).

George Meredith “Med” Linton (Figure 3) was an adroit choice to oversee the establishment and operation of the new PFS in Orono; he would serve as its first Superintendent for nearly four decades (1922-1961). He was born in the village in 1894, and the Great War interrupted his schooling at the University of Toronto's Faculty of Forestry. After serving in the Canadian Forestry Corps, he returned to the Faculty to complete his studies and then began working for the Dominion Forest Branch. Hearing of an opportunity in his hometown, he applied, and the Ontario government hired him for the assignment in Orono in 1922. In many ways, Linton personified the type of forester the Faculty was producing at the time. Forestry had only recently established its roots in Canada. As a result, the Faculty's professors knew that their

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graduates would face enormous difficulties as they launched their careers because so few Canadians even knew what forestry was let alone supported its practise. The Faculty thus groomed its students to be exemplary professionals in order to gain the public's respect as quickly as possible, and to have the fortitude to soldier on come what may and spend a large part of their working lives publicizing the benefits of prudent forest stewardship.

Linton faced an endless string of practical hurdles as he set out to create the Orono PFS, but he overcame each one through dint of hard work and improvisation. Predictably, his initial task was to identify an appropriate site for the nursery. Thereafter, he was a jack-of-all-trades. He donned his civil engineer and site supervisor hats in surveying the location for and overseeing the construction of a new road from the nursery to the village of Orono. He employed his knowledge of soils to locate the best spots for the nursery's seed beds (into which the tree seeds were planted) and transplant beds (into which the two-year old seedlings would be transplanted and grown for another few years); he used these same skills in planting

crops to replenish the beds' fertility. He employed his skills as a carpenter, plumber and plasterer when he repaired the existing buildings on the property and built the requisite new ones, including a new headquarters in which he and his family would live. He also began acting as a weatherman after establishing a meteorological station to monitor the local atmospheric conditions and determine how they affected the development and growth of his seedlings. Remarkably, he did all these things on a shoestring budget. Nothing spoke to the measly funding he received to build and run his tree nursery more than the fact that he was forced to operate it without an irrigation system – the sine que none of any nursery! – for his first five years as superintendent.

Although the practical tasks Linton performed to get the Orono PFS operational were essential to furthering the reforestation movement, far more important was the publicity work he had to perform. Even in Durham and Northumberland Counties, which were suffering seriously from their pockets of desertification, problematic sand dunes, dropping water tables, and eroding landscapes, rehabilitating the environment was not a top political priority. Moreover, although undeniably some farmers grew more supportive of treeplanting during the interwar years, they remained surprisingly averse to it. In fact, reforesting the wastelands was not a pressing issue for the overwhelming majority of southern Ontarians. As Drury stated, at the time most “public opinion was apathetic or hostile towards reforestation.”

Linton tackled his public relations work with alacrity, and he apparently made many converts. One crucial way in which he and all the PFS superintendents did so was by creating recreational areas and gardens on their nursery properties that enticed members of the public to visit and, ultimately, learn about their reforestation work. For Linton, this entailed creating and maintaining stunning grounds whose allure attracted tourists from near and far. They included ten acres of public gardens around the Superintendent's house and forestry office, complete with trees, huge flowerbeds, a rose garden with a fishpond, a rock garden, and corridors lined with 20-foot cedar hedges. There was also an apple orchard near the barns and parkland adjacent to the nursery property. Together, these natural attractions had remarkable drawing power during an era when Sunday drives in the countryside became a highly popular leisure activity (Figure 4). Furthermore, Linton delivered speeches to community and farming groups, and local governments. To enhance the allure of his presentations, he employed the latest technology in the form of slide shows and moving pictures. In

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**Figure 3: George Meredith Linton
(Courtesy of Orono Crown Lands Trust)**

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the mid-1920s, he started hosting an exhibit at fall agricultural fairs throughout the region to advertise and explain the work he was doing, and building floats that could be used in the region's celebratory parades (Figures 5 and 6). He even began advertising his forestry work in sporting goods and outdoor recreational magazines. Finally, there were the seemingly endless letters he would write to the many inquiries he received about the steps that his tree nursery was taking to address the local environmental crisis.

In delivering his message, Linton would often stick to a very simple script. His primary goal was to convince his overwhelmingly rural audiences that there was "no conflict of interest between the agriculturist and the foresters ... their activities were actually ...



Figure 4: George Linton took steps to ensure that the gardens and grounds of his tree nursery were truly sights to behold. This image illustrates some of the gardens and the Superintendent's house in the background (Courtesy of Orono Crown Lands Trust).



Figures 5 and 6: Here are some of the early floats that Linton used in his campaign to illustrate to a skeptical public the value of reforestation work (Courtesy of Orono Crown Land Trust).

complementary to one another." To illustrate his point, he stressed that foresters advocated planting trees only on lands that could not be profitably farmed, and that establishing windbreaks and managing woodlots sustainably would help improve the farmers' yields. He also emphasized the many financial benefits that accrued from reforesting appropriate tracts,

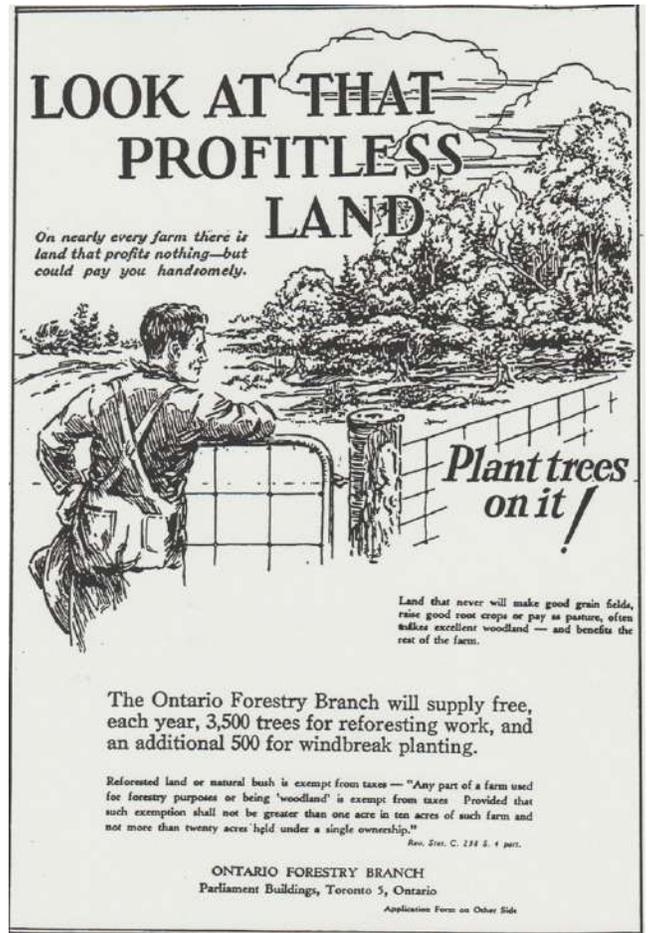


Figure 7: Linton and his colleagues used posters such as this one to help convince farmers of the efficacy of reforesting their sub-marginal and marginal lands (Courtesy of Archives of Ontario).

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including generating sizeable future returns when the trees were cut and improving local tourism (Figure 7).

Linton was often reminded of the general public's aversion to supporting reforestation during his career – the media and letter writers seemingly delighted in pointing out to him the mistakes he made along the way, but he remained undaunted. Time and time again, when faced with a snide comment about his work, he would pen a riposte that endeavoured both to set the record straight and educate the public about the government's reforestation program. Eventually, Linton would convince the once skeptical editor or newspaper owner of the value of supporting his work, and thereafter he would have gained a valuable ally in spreading the news about the treeplanting campaign in southern Ontario. He thus devoted much – if not most – of his time to being the resident reforestation ambassador, selling the concept to the local population, publicizing the government's suite of reforestation programs, and persuading farmers to reforest their marginal and sub-marginal lands.

Although it is difficult to assess accurately the relationship between cause and effect in many instances, the evidence attests to the efficacy of Linton's work and the toll it took on him personally. For instance, the number of applications for seedlings from his PFS rose significantly a few years after he started preaching his message. Concomitantly, Linton noticed a discernable improvement in the locals' attitude towards reforestation. In his 1928 annual report, for example, he noted that his propagandizing had produced "a steadily increasing interest in [the cause] ... among the people as a whole."

At the same time, his zealous commitment to his work wore him down. After setting up, attending, and then taking down his reforestation exhibit at six fall fairs in 1925, he was stricken by a severe bout of influenza that left him bed bound for a considerable length of time.

Undoubtedly, Linton benefitted from (and obviously contributed to) the success enjoyed by the broader reforestation movement in southern Ontario during the mid- to late 1920s. To boost morale among the foresters who were leading this campaign, in 1923 Zavitz began arranging an annual meeting to discuss strategies for publicizing their work. These occasions developed camaraderie among the troops and provided a chance for them to commiserate about the difficulties of toiling in a profession that was still in its infancy in Canada. Zavitz was also promoted to deputy minister in 1926 and was

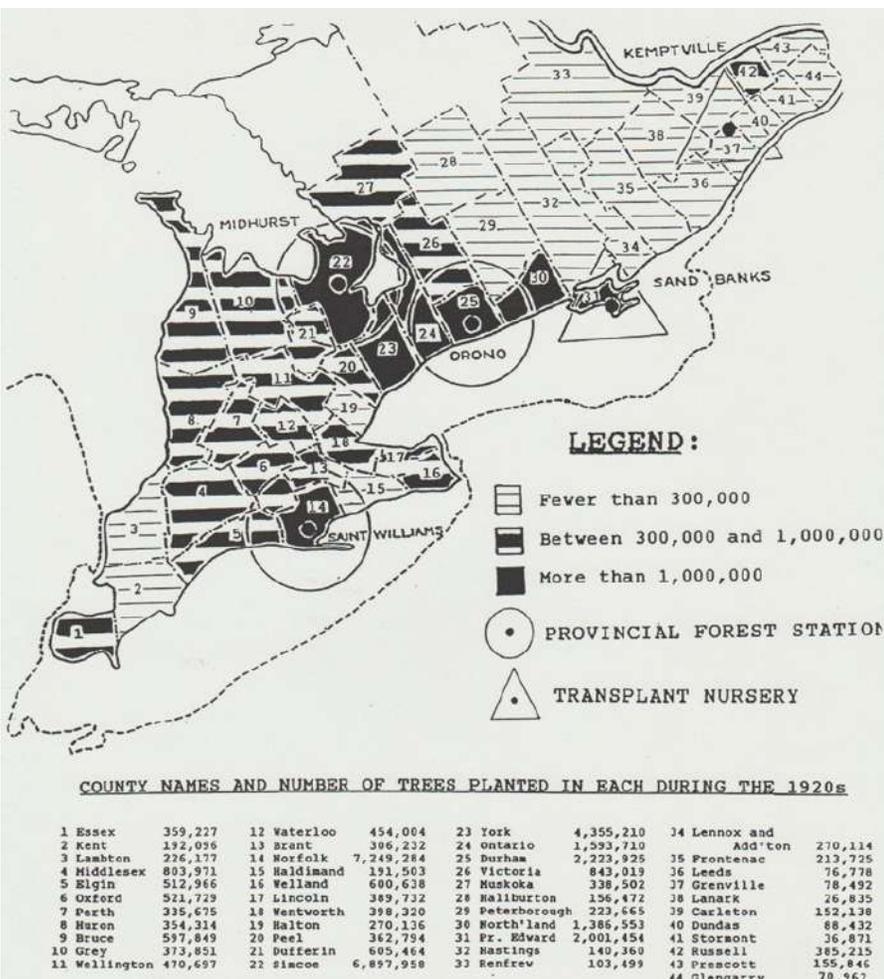


Figure 8: This map illustrates how, by the end of the 1920s, the reforestation effort had begun addressing the areas in southern Ontario that had been most adversely affected by the wanton deforestation.

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allowed to hire an assistant, Arthur H. Richardson, to help administer the expanding reforestation work. The evidence of its growing scope was visible throughout southern Ontario. By the end of the 1920s, Zavitz and his coterie of reforesters had helped establish eight county forests (with almost seven million seedlings), two large private forests (with over one million new trees), and nearly eighty demonstration forests (with approximately 6.5 million seedlings). Furthermore, over two-thirds of the counties in southern Ontario had at least one type of plantation (with about 18 million seedlings) and more than 22,000 individuals had planted nearly 30 million on their properties. Significantly, the early 1920s had seen merely a few hundred landowners order a few hundred thousand trees in total each year, but by the end of the decade an average of nearly 5,000 citizens were ordering about seven million seedlings annually from the government's trio of tree nurseries. Even more impressive was the fact that the preponderance of these seedlings were being planted in the areas that were most in need of environmental rehabilitation according to Zavitz's 1908 report (compare Figure 8 to Figure 1). Although much work remained to be done, Linton and his colleagues had laid the foundation upon which they and their successors would build in the decades to follow.

Today, Linton's legacy is visible throughout what were formerly the United Counties of Durham and Northumberland; given the dramatic pace at which urbanization has occurred in southern Ontario in general and the GTA in particular, the tangible fruits of his labour are arguably more important today than ever before. The Orono Park that Linton maintained adjacent to the nursery continues to be a thriving part of the broader community. Linton's environmental rehabilitation work in stabilizing local streams by treeplanting their watersheds has helped revitalize them and attract fisherpersons from around the region. Likewise, he played a leading role in creating the Ganaraska and Northumberland County Forests, and supervising the Durham Forest and the reforestation work in the Sandbanks area, and these woodlands now serve as vast, year-round recreational areas. Lastly, there is the Orono Crown Lands Trust, which is composed of roughly half the old nursery lands and aptly includes the Linton Trail.

In performing his pioneering work, Linton was part of a tiny team that went where no environmentalist in Canada had ever gone before. He dedicated his professional life to addressing a pressing ecological issue at a time when his work enjoyed surprisingly little public and political support. He stayed the course despite receiving paltry resources with which to carry out his work and being subjected to criticism about the efficacy of what he was doing. He persevered under these trying conditions, and devoted a significant amount of his energy to a publicity campaign that aimed to educate Ontarians about the benefits of restoring damaged and degraded landscapes. He and his colleagues certainly made a few mistakes along the way (e.g., planting exotic species such as Scots pine), but they succeeded in setting the province on a path towards undertaking what has arguably been our country's largest environmental rehabilitation project. Linton's career thus stands as an inspirational lesson to those who feel overwhelmed by the task at hand in terms of confronting our environmental challenges, and offers hope that individuals can make a difference in overcoming those ecological issues that lie before us.

Endnotes

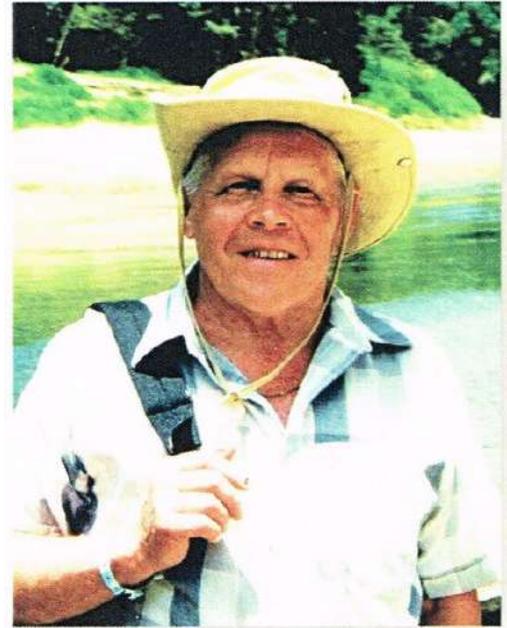
¹This article is condensed from the original one that I published nearly a quarter century ago: M. Kuhlberg, "Ontario's Nascent Environmentalists: Seeing the Foresters for the Trees in Southern Ontario, 1919-1929," *Ontario History* LXXXVIII(2), June 1996. I would like to thank the Ontario Historical Society for supporting me in re-telling this story. Unless otherwise noted, the sources upon which this article in *Forestry* are based are found in the longer, original piece. I would like to thank John Windatt of the Orono Crown Lands Trust for his assistance in providing images for this article; the Trust is the present steward of the lands that formerly made up the local tree nursery. I would also like to recognize Carole MacFarquhar, Meredith Linton's granddaughter, for the help she gave me many years ago when I first began investigating this story and more recently when I was preparing this article.

²Conrad Heidenreich, *Huron: A History and Geography of the Huron Indians, 1600-1650* (Toronto: McClelland and Stewart Limited, 1971).

A Story of One Family's Settlement in Northern Ontario

By: Eero Multamaki
Introduction by: Ken Armson

The settlement of immigrants and their clearing of forests for farms is an integral part of the history of Ontario's forests. Much has been written about the initial clearing in the 19th and early 20th centuries in southern and central Ontario by United Empire Loyalists and immigrants mainly from the British Isles, but the encouragement by the provincial government for settlement in northern Ontario, particularly after the end of World War I in 1918, has been less recorded and not become part of the general public's collective historical memory. Settlement, especially in northeastern Ontario, accelerated after the opening of the Temiskaming and Northern Ontario Railway to Cochrane in 1908. Earlier the province provided so-called "Vet Lots" of 160 acres for veterans of the Boer War, which ended in 1902, in the area known as the "little clay belt" north of Haileybury.



The difficulties encountered by settlers in the boreal forests of the northeast were of a different order than those in southern Ontario in terms of the nature of the soils, with large areas of muskeg and poor drainage, the climate and hence limitation on the range of crops that could be grown and limited accessibility and communication. To a degree the only mitigating circumstances were the presence of a newly burgeoning pulp and paper industry which provided a source of cash for pulpwood, much as the sale of potash had for early southern Ontario settlers, and the social and medical services of the mill communities.

Multamäki's story provides an account of how his parents, immigrating from Finland, established a home and family in northern Ontario, including an encounter by his father and brother with a bear which made headlines in the Toronto Star newspaper, 26 May 1954.

Eero was born in Reesor, Ontario, 7 December 1932. After attending high school in Hearst, he became a long time employee of the Ontario Department of Lands and Forests and its successor the Ministry of Natural Resources. He began his career as a Resource Technician in 1957 in Kenora and Hearst Districts until 1967. He was a graduate of the Forest Ranger School and one of the technicians sponsored by the then Deputy Minister, Frank MacDougall, to attend the Faculty of Forestry where he graduated with a B.Sc.F. in 1967. While an undergraduate he won the Gildea Scholarship of the Soil Conservation Society of America (1964-66) and the Spruce Falls Pulp and Paper Company scholarship in 1965. Following graduation he was appointed management forester for the Port Arthur unit until 1970 when he moved to North Bay as the land management planner, here he was involved in preparing the Lake Temagami Plan for Land Use and Recreation Development. In 1973 he was appointed Regional Land Use Coordinator for the Northern Region in Timmins and was there until 1975. He moved to Sudbury with the same responsibility for the Northeastern Region until 1980 when he was briefly the acting District Manager for Temagami before becoming the Policy Officer in the Ministry's Policy and Planning Secretariat in Toronto until his

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retirement in 1987. Throughout his life Eero was an avid fisherman, hunter, and painter of forest scenes.

Acknowledgements

Eero's story of his parents' settlement was first published in 2009 in *Clayton's Kids, Pioneer Families of Hearst Public School* (ISBN 978-0-9812773-0-1) by Frank Pellow. That version contains many photos which are not included in the present one.

I am indebted to Carol Multamaki for the biographical information and photos that accompany Eero's article.

The Story

The history begins in Central Finland where both Vieno Nikolai Multamäki and Elma Esteri Kara were born. Although they grew up twenty kilometres apart, they would not meet until Canada. Nikolai (b.1899) was one of several children. Having completed the local public school, he found employment in the forest industry and in the carpentry trade, before enrolling in a forestry school. Unfortunately, he was unable to continue for lack of funds. This, among other factors, precipitated the move to Canada at age 24 with his brother, Paul, where employment opportunities were reportedly great. Another deciding factor was the political situation. Finland had gained independence from Russia in 1919, but sentiments ran high, with much support still for the former political system; the situation was so tense that clashes occurred between the Red and White Finns, endangering lives. In 1923, Montréal became the brothers' temporary home for some years; winters were spent in logging camps and summers in Montréal, Kingston or Ottawa doing carpentry work. Nicolai worked on the famous Montebello Lodge during its construction. Elma Kara arrived in Montréal in 1928 at the age of 24 where she met Nikolai at a Finnish community centre. They married in 1930.

With the Great Depression, work became scarce. Word spread that Ontario was granting homesteads to settlers willing to come to the Hearst – Kapuskasing corridor, where land had been set aside in Eilber Township. There were promises of work cutting pulpwood off the homestead for sale to Spruce Falls Pulp and Paper in Kapuskasing. In Eilber Township the lands most accessible to the railroad at Reesor had already been taken by Russian Mennonite settlers, so the Finns were relegated to lands four miles north of the tracks. The area was serviced by a clay road which was impassable except by horse and wagon. Each homesteader was given seventy-five acres (a half lot) with requirements to clear land and erect buildings in order to obtain permanent title. The settlers didn't realize that the almost impassable road wouldn't be improved for years and even then wouldn't be plowed in winter and would only be passable in summer in dry weather.

The Finnish settlers created their own community with thirty-five families and a few single men. The Multamäkis were located a mile east of the end of the road, with no road access whatsoever, except for a walking trail which traversed swamp land and spruce forest. The task of setting up habitation was incredibly difficult. From the station platform at Reesor arrangements had to be made to transport the Multamäki possessions a distance of five miles to the property, the last mile on a pack trail through the bush. On arrival the priority was to construct a log cabin. This had to be completed before snowfall, as winter temperatures here dropped to -45°F and snow depths reached over three feet. Also winter firewood had to be cut and secured in a shelter.

It was a matter of survival for the first year. The forest provided meat, game was abundant – moose, grouse, and rabbit, and pike and perch were plentiful in Friday Lake, a mile by trail to the east. Until pulpwood was cut and delivered, little money was available. Furniture was constructed largely from

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logs and boards were hand-sawn from local trees. The home was made of logs with a tar-paper roof and windows backpacked in from the store at Reesor Siding. Occasionally, horse transport was available for larger items by borrowing from a more well-off settler. Nikolai built a shingle mill which produced shingles for neighbours which he used to barter for other necessities. Nikolai, an experienced hunter occasionally hunted moose for other settlers in exchange for goods or help. Trapping provided extra revenue from the sale of fox, muskrat and weasel pelts.

There were no telephones, hydro or radios. Mail had to be picked up and sent from the store at Reesor Siding. A weekly Finnish newspaper provided the only news from the outside world. As for neighbours, the Multamäki homestead was isolated by a mile-long trail through the forest to the main block of settlers. Only one of the adjacent lots was settled by a family with a cabin. It was occupied for two years and then deserted.

During the first year, three acres of land were cleared and planted in hay, a garden developed, and a cow purchased for milk, along with a piglet and six hens. A barn was constructed and a sauna built, also a root cellar, resembling an underground cave, to store vegetables. Meat was preserved in Crown sealer jars and thus made available year round. Life was incredibly difficult. Everyday required back-breaking labour from daybreak to dark for the men. It was no easier for the women who had the responsibility of cooking, cleaning, sewing, supervising children, and taking care of livestock, milking, and helping their husbands with the manual work. If time permitted, clothes were handmade.

In 1931 the first Multamäki child, Ernie Nikolai, was born at the hospital in Kapuskasing. As a consequence of the difficulty of getting Elma out to the railroad to catch the train, their second son, Eero Ensio was born at home a year later with a midwife attending. The day after Eero's birth his father had to go and hunt down a moose – the larder was almost empty.

The homestead became a way of life for seven years, as the family waited out the Depression. In the 1930's a gold discovery was made in McGowan Township to the east and a flurry of prospecting activity occurred. Nikolai, with a single homesteader friend, joined in the hunt for gold and a few holes were drilled and blasted out in the homestead field. Nothing came of it but they found a small showing of no value near his friend's property. This endeavour left Nikolai with the urge to prospect which lasted all his life and was imparted to both his sons.

For the summer of 1936 the family moved to South Porcupine where work was available at the new gold mines and Nikolai was able to work and save money for the year ahead. In September the family returned to the Reesor homestead. By 1937, with Ernie and Eero now of school age, the family moved to a vacated homestead within walking distance of the public school (S.S. 4 Eilber Twp.). A teacher from outside the area was housed in a home of one settler family each year. At its peak the school enrollment reached thirty.

Some improvements to lifestyle were apparent at the new location - social events such as dances at the schoolhouse (music by resident accordion players) and church services when wandering ministers would appear. There was no church building. A Watkins salesman would come in winter by dogsled to provide essential medicines and products. He would overnight in a settler's home which was always provided free of charge. Parthia Lake was within walking distance for swimming and fishing, something the children greatly appreciated. Santa Claus always appeared at Christmas at the school. At this time only two automobiles existed in the settlement and could only be driven in the summer season when the roads hardened up. There was a sharing of transportation of goods from the store for many of the settlers.

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There was an exodus of settlers as work outside the settlement gradually increased. Single men left first, followed by settlers from the more remote homesteads. With World War II, employment was suddenly available everywhere and a wholesale exodus began. Soon very few families remained and the school closed. The Multamäkis followed suit in September 1940, moving first to Kenogami, Québec and then to a home in Wyborn on the west side of Hearst, on the river.

This proved to be a great place with recreation opportunities available on the river. Nikolai worked in Hearst as a carpenter during the summer and returned to Reesor for the first winter to cut pulpwood. The family went with him and stayed in an abandoned homesteader's log home. Ernie and Eero attended the familiar Reesor Public School (not yet closed). The family returned to the Wyborn home in April and lived there for the next two years. At that point it was decided that a farm property was needed for crops and livestock to ease financial problems. A farm was located in the northeast corner of Way Township, Lot 6, Concession 12, about three miles west of Hearst. Here the family stayed for fifteen years.

Carpentry work in Hearst and trapping became a way of life. The beaver population had recovered and prices hit a high of \$40 a pelt, at a time when manual labor was paid \$10 per day. Nikolai partnered with Walter Eilala, who had a trapline area east of Oba. The following year he secured a line of his own in a remote area south of Hornpayne. With his new partner, John Hook, he spent periods from mid-October to Christmas and from the New Year to the first of March in the wilderness. They waited for the waterways to open up so the return trip could be made by canoe down the Kabinakagami River to Highway 11, west of Hearst.

In his absence Elma managed the farm. She was at times afraid to be alone and was happy to have Eero spending his high school years at home. There were a couple of incidents when strangers would knock on the door seeking food or shelter; food was shared but overnight shelter had to be turned down. It was not until the fall of 1948 that the Multamäki family was able to purchase their first automobile, a brand new 1949 Ford.

Nikolai was a superior craftsman when it came to building cedar-strip canoes and boats. The canoes were light for easy portage and flights into the bush on the pontoons of aircraft. In the fall, Nikolai chartered an aircraft from Oba Lake to take in the winter's supplies. This meant that he, with his partner, were stuck in the bush until freeze up. After that the trip out was on skis, with the season's catch of fur drawn by a husky dog to the ACR tracks at Oba, a distance of thirty miles. The hazards of the trapline were always apparent, as an accident would leave a person with no communication with the outside world and no easy way out. Nikolai passed his skills on to his sons. At fourteen, both Ernie and Eero became adept at trapping and hunting to obtain pocket money from fox, weasel, and muskrat pelts. In 1946, Ernie, after finishing school, decided to take up the trapping profession and father and son became partners. Eero chose to continue his education at Hearst High School, now about three miles, graduating four years later. In 1950 Ernie purchased a new Ford three-ton truck equipped to haul pulpwood and began working winters at various camps.

It was on the trapline in May, 1954 that Nikolai had a brush with death. He and Ernie were on foot when a startled bear charged Nikolai. He was able to get off four shots with his high-powered rifle but the bear continued to charge, pinning him to the ground and attempting to bite his face. Nikolai held it off for a moment by pressing the rifle barrel crossways into the bear's mouth. Ernie delivered a giant blow with his axe to the side of the bear's head which caused it to roll off his father. He then proceeded to kill the bear with his axe. Nikolai had suffered a broken finger from the bear's mouth and deep scratches across his breast and legs from the claws. Medical aid was urgent, but help lay twenty-five miles across untracked wilderness. Ernie managed to get Nikolai to one of their trap cabins a mile away, where he bound his wounds. He then set off on foot to Hornepayne in search of

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an aircraft, navigating by compass through the dense bush, wading streams and swamps enroute. He encountered another bear, but gave it a wide berth. Thirty-six hours later he arrived in Hornepayne and returned with a float plane to evacuate his father. This incident received province-wide publicity and a reporter from the Toronto Star came to Hearst to interview the family. The story by Lloyd Lockhart was published in the Toronto Star with the headline "KILLS BIG BEAR WITH AXE TO SAVE DAD, THEN HIKES 30 MILES IN BUSH FOR AID", together with a photo of Ernie and his axe.

Nikolai continued trapping with Ernie for two more years before returning to carpentry jobs in Hearst and some pulpwood cutting. He and Elma continued to farm until 1959, when they moved to McManusville, having sold the farm. Later they would move to Thunder Bay; Nikolai succumbed to a heart attack in 1977 and his wife Elma passed away twenty years later. Ernie stuck to the north as a skilled cabinet and furniture maker and was developing his business as a builder and contractor until his untimely death in a construction accident in 1996.

Invitation to the Annual Meeting of the Canadian Society of Forest Engineers (now the CIF) January 1926

Submitted by: Dolf Wynia

THE ANNUAL MEETING

Toronto for hundreds of years has been a well-known place for a meeting. Before the white man cleared his fields, the dwellers in the forest brought their spoils down nature's winding highways to where the city now stands beside the smiling waters of Lake Ontario. Then it was called Fort Rouille, later it was known as York, and by those who could afford a frilled shirt and fine shoes -Muddy York. Then the name by which it was known to the red men and for which it has since become famous throughout a continent, was re-given and has stayed – Toronto, or in the Indian dialect, “a place of meeting”.

The spirit of these early voyageurs who name the city, beckons you with a hearty welcome! The University under whose fostering care the meetings will be held bids you come! The professors of the parent forestry school of our country in their beautiful new building, wait to welcome you with friendly hand!

There will be a real bang-up meeting at night in the Physics Building at which the laymen of our land will hear nothing but forestry! The new forestry building will be officially opened with all the dignity that such a ceremony affords, with the President of the University and men high in public affairs officiating.

There will be two days to talk shop! A banquet! Food! The kind a man likes to linger over will fill the festal board. The comradeship of college days will be there. The old songs will raise tumultuous echoes of old days. The ladies – bless them - have not been forgotten. Bring them along. There will a tea in the new building and a dance in the music hall of Hart House.

All that is required to assure for this meeting a full measure of snap and flavour to make it an event that will linger in the hearts of Canadian Foresters, to assure the fun and frolic that will quicken the pulse , to weld the profession and deepen friendship, is – **Y-O-U**

Come to Toronto to the Annual Meeting

Lumber History of Halton

By: W.D. McIlveen

Like all of Ontario, the geographical area that now comprises the Regional Municipality of Halton was once covered by the Laurentian ice sheet. When that ice melted nearly 12,000 years ago, the land that emerged was devoid of vegetation. Nature wasted no time in covering the area with vegetation in a process of normal natural succession. In its simplest description, the succession transitioned the land from a tundra-like condition to boreal forest to pines then maple and oak hardwoods. Halton has a significant advantage in that it has proof of the change from pollen and other profiles in the sediments of Crawford Lake located near the geographic centre of the municipality. The sediments from the Lake and some other nearby locations all clearly document the chronology of the vegetational shifts over time.

Prior to 1800, hardly any Europeans visited the area we know as Halton and the land was held by First Nations peoples of the Mississagi Nation. Eventually, ownership of the land was transferred to the British Crown in two principal agreements between the First Nations and the King of England. The first of these was the Head of the Lake Purchase in 1806 that included the land covering southern Halton and Peel (Rogers and Smith, 1994). In 1818, the same parties agreed to Treaty 19 or the Ajetance Purchase which included northern Halton and Peel. In each instance, the newly-acquired land was subjected immediately to surveys to establish the future lots for the European settlers. Until the surveys were completed, no settler could occupy the properties.

Upon the arrival of the Europeans, the land in Halton was mostly covered by dense forest. That forest consisted mainly of hardwoods such as maple and oak as well as other common native species we would readily recognize today. There were some stands that included hemlock and white cedar, but there were also some places where white pine predominated. The sites where white pine was common were the former fields where the First Nations had grown corn and their other crops.

The settlers generally regarded trees as the enemy that needed to be destroyed in order to create clear and arable agricultural land. The only thing that could be done was cut the trees. Beside the obvious use of the wood for firewood, some was used as logs or lumber for building houses, barns, shed, mills, bridges and such structures. Some was exported as lumber, including oak barrel staves. Later, some was used for the construction of plank roads (McIlveen, 2015). Some was utilized for the construction of fences (McIlwraith, 1997), either as cedar rails or pine stump fences. Additionally, ashes from the burning of the unwanted wood were collected to recover potash that was used in the manufacture of soap. There are records of an ashery at Milton Heights (Mann, 2012), and at Norval. While the Crown did make claims to some white pine trees as masts for the British Navy, any actual claims to the "King's Pines" in Halton appears to have been rather minimal. Whatever trees might have been involved would surely have come from sites within easy reach of the shore of Lake Ontario.

One additional forest product was the bark of eastern hemlock. The value of that bark was due to the presence of relatively high concentrations of tannin. Tannin was a critical chemical in the production and preservation of leather although the source of tannin or equivalent chemicals no longer involves hemlock bark. There were numerous small tanneries all over Ontario because leather was a material that was used extensively in pioneer times. It should be noted that the first tannery at Acton was established in 1842. From its humble beginning, the tanning industry in Acton grew to be the largest tanning operation in the British empire. With such a large operation, large quantities of hemlock bark were needed. At first, local land owners could provide small quantities of

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bark as a source of much-needed cash. The local forests could not meet the demand and supplies of bark had to be obtained elsewhere, particularly from the Parry Sound District. During the period when bark was obtained locally, the cutting of the trees had a considerable negative impact on the stands of hemlock in the vicinity of Acton. Hemlock still occurs in the woodlands of Halton but its abundance is much lower than it might have been had the leather industry not developed to such an extent at Acton.

Throughout the decades, the Ontario government has conducted many investigations and commissions, including Royal Commissions. Those assorted investigations covered diverse topics dictated by the particular situation or by political expediency. One notable commission, the Ontario Agricultural Commission, was arranged mostly for overall management purposes by documenting the prevailing state of agriculture in the Province in 1880. That report (Province of Ontario, 1881) consisted of a summary of interviews with many farmers and other agricultural experts throughout the province. It covered all the changes to the land that had occurred in the period between the dates when the land was first surveyed and 1880. The resulting document is thus a very important historical reference that includes information concerning the state of the environment at the time, including the prevailing conditions within Halton. The clearing of the land for agricultural purposes made for profound changes in the vegetation cover throughout Halton, although certain lands too rocky to cultivate or along the Niagara Escarpment were not cleared. The total land cleared during that period totalled some 164,000 acres. This change represents the equivalent loss of about 7.5 acres of forest cover within Halton each and every day for the full 60 years. At this time, almost all of the trees removed were cut down with axes so a huge amount of physical labour went into the clearances.

Township	Date Surveyed	Total Acres	Cleared Acres	% Cleared
Esquesing	1818	67,000	44,578	66.5%
Nassagaweya	1819	44,800	24,497	54.7%
Nelson	1806	45,474	35,000	77.0%
Trafalgar	1806	66,656	60,000	90.0%
	Cleared acreage numbers based on Province of Ontario, 1881			

Uses for the cut trees are described above. Some of the better-quality timber was converted to lumber. In the earliest years, transport of logs to a sawmill was greatly hampered by a lack of suitable roads. The introduction of oxen would have allowed logs to be dragged, particularly during the winter. Later, sleighs might be available to transport the logs. Numerous sawmills were first constructed where suitable waterpower was available. Later, steam engines were developed and could be established at sites away from running water. The following table illustrates just how many sawmills were established in Halton. Making allowance for reduced numbers of operations in the southern areas (Nelson and Trafalgar) in the more recent years when forest cover declined, a total of at least 83 sawmill sites were established. Calculations indicate that, on average for Halton, there was a sawmill to serve every 4.2 square miles of land area. Some examples of early sawmills are illustrated in the images on the following page (Figures 1 to 6).

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Figure 1: Sawmill at Farlton north of Hornby, 1850. Photo TTOIIMS0103.



Figure 2: Kennedy Sawmill Esquesing, 1860. Photo EHS00596.



Figure 3: Brocklehurst Sawmill Lot 6 Conc 4 Esquesing, 1910. Photo MHS002289286fA.



Figure 4: Lumbering on Cunningham Farm, Milton, 1910. MHS002289279f.



Figure 5: Nelson Sawmill, Port Nelson, Burlington.



Figure 6: Elmer Downs portable sawmill operating near Norval. Photo TTOIIMS0019.

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Sawmills operating in Halton County 1817-1862					
Year	Township				Total
	Esquesing	Nassagaweya	Nelson	Trafalgar	
1817	-	-	3	4	7
1846	11	3	-	23	37
1850	11	7	17	19	54
1862	31	12	12	16	71

An obvious residual artifact of cutting down a tree is the stump. The presence of stumps represented a significant obstacle to the cultivation of crops, with wheat being the foremost choice. Although stumps might occupy valuable space that might otherwise be used by crop plants, they did not present the same problem that they would to modern machinery. In the early days, crops were planted and harvested by hand tools so the space between stumps could be utilized. A settler had the choice to dig out the stump, an act that would have been a major investment of his scarce time. He could allow the stump to dry then attempt to burn it, or he could leave it in place and allow it to decay. The choice to allow decay to proceed was not a realistic option for the stumps of white pine owing to their great resistance to decay. The overall pattern was for farmers to simply leave the pine stumps *in situ* for some considerable time. This was reflected in the survey questions posed by the 1880 Agriculture Commission. They specifically asked what proportion of cleared land still had pine stumps present as indicated in the following table. The amount of land still with stumps was variable, but obviously a large number of stumps remained for some period after the land was cleared.

Township	Proportion Clear of Stumps	Proportion Still With Pine Stumps	Remaining Timber
Esquesing	4/5	1/10	1/3 - hardwood, pine nearly exhausted
Nassagaweya	2/3	All	10% - hardwood, cedar, pine, tamarack
Nelson	39/40	9/10	15% - pine and hardwood
Trafalgar	All	0	10% - pine, oak, hardwood
Province of Ontario, 1881			

A requirement for new landowners to gain title to their land was to fence a specified portion of the new property. An effective way to meet this requirement was to utilize the nearly useless stumps by lining them up at the margins of the new fields and declare them as a fence that could contain cattle. Obtaining the stumps did require that they were dug out and dragged to the new fence location. Various devices were developed to assist in the process. Figure 7, taken near Georgetown around 1910 (relatively late in the practice), shows one such device as well as some stumps aligned as a fence.

The presence of stump fences is indicative of the local presence of a stand of eastern white pine at the time of land clearing for we can be confident that the settlers would not want to move the stumps any further than necessary. At the time of the Ontario Agricultural Commission of 1880 (Province of Ontario, 1881), it was reported that the majority of pines had been cut and most of the

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**Figure 7: Stump pulling on the Moore Farm.
Photo EHS 14410.**

pine stumps removed. It would appear likely then that most of the pine stump fences had been created by this date and that any stump fences remaining in 2020 would consist of stumps that are at least 140 years old. Even the resistance to decay in pine stumps is no match for time and the stump fences are disappearing. Some stumps are removed by the landowners and some succumb to various biological agents.

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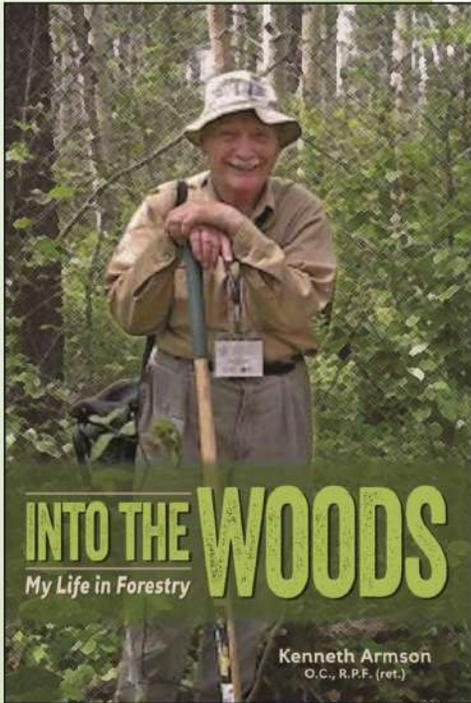
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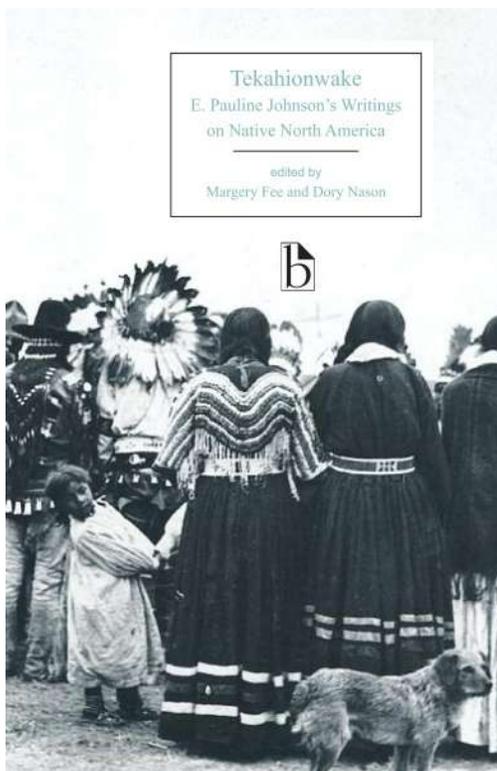
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By: John Bacher



Tekahionwake: E. Pauline Johnson's Writings on Native North America

Edited by Margery Lee and Dory Wason. Broadview Press, 2017. 368 pages.

If it is widely read and appreciated Margery Fee and Dory Nason's *Tekahionwake* should be an overdue breakthrough in Canadian literary history. What is encouraging is that the editors put *Tekahionwake's* (E. Pauline Johnson's) writings in the context of practical resistance to settler-colonial dominance of the emerging Canadian nation. This had as its greatest success the new attitudes towards forests in Canada by her family and their loyal Mohawk friends. Many of these were Mohawk forest rangers supervised by her father, and paid for from the sale of timber illegally logged. Previous attitudes to woodlands as an interim use to be burned away before agricultural use were finally subdued.

Just as *Tekahionwake* had to struggle against the prejudices of what Fee and Nason call the "tone deaf general public", environmental and native study historians today face similar barriers in changing understandings of Canadian history. They have uphill battles in nurturing awareness of the nuances and

struggles of Aboriginal communities to foster the emergence of a conservation ethic in Canada.

In an innovative way Fee and Nason put *Tekahionwake* in the context of "Red Progressives". They depict how Progressive intellectuals such as *Tekahionwake* "argued for the involvement of Indians in decisions about them".

Nason and Fee illuminate novel how Native struggles during the Progressive era crossed borders. Johnson's writings influenced an articulate champion of Native rights in the United States, the prolific Seneca author, Arthur C. Parker. Parker boosted Native political rights in the United States, and helped formulate the conservationist policies of Franklin Roosevelt's Indian New Deal.

To illustrate what the "strong willed souls" of the Red Progressives were up against, Fee and Nason includes an essay by the czar over Indians in Canada at this time. He was the perpetual Deputy Minister of Indian Affairs, Duncan Campbell Scott. Revealingly they include in their anthology Scott's "The Onondaga Madonna." Scott called the "Madonna" representative of a "weird and waning race."

What makes the anthology so precious is its inclusion of *Tekahionwake's* two short stories, written as fiction, that detail the struggles of her father, George Johnson, to protect forests. He suffered from three assassination attempts for his work as a forest warden.

In the last few decade of his life George Johnson helped shape the forest conservation policies of the Ontario Fruit Growers Association (OFGA). Pauline helped prepare lunch for a delegation of the OFGA at the family home, Chiefswood. George Johnson, accompanied by his brave team of

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Mohawk forest wardens, attended the annual meeting attended by Charles Drury, father of Premier E.C. Drury, and Edmund Prout, grandfather of Edmund Zavitz.

Fee and Nason explain how the fictional short stories “My Mother” and “His Majesty’s Guest” in their anthology were written to describe, in an appropriately dramatic way, Tekahionwake’s father’s brave work as a forest warden. Her father is a relatively minor figure in “Her Majesty’s Guest”. Its hero, Tom Barrett, is a composite of four Anglican priests who aided George Johnson’s forest conservation work through sting operations in disguise. These priests were Abraham Nelles, his brother-in-law Adam Elliott, R. J. Roberts, and a Mr. Johnson (no relation). However, George Johnson and his wife Emily are central figures in “My Mother.”

As Tekahionwake explained in her introduction to “My Mother”, the fictional tribute was based on stories told by her mother Emily. Here her father is given the fictional name George Mansion.

The drama based on her witnessed personal experience in “My Mother” is more intense than the imaginary fictional stories that are the basis for Tekahionwake’s more famous poems. It describes how “Night after night” her father lay “concealing himself in the marshes, the forests, the trails, the concession lines, the river road, the Queen’s highway, seizing all the timber he could, destroying all the whisky, turning the white liquor traders off Indian lands, and fighting, only as a young, inspired man can fight.”

In “My Mother” Tekahionwake describes some of the revenge the timber poacher had in retaliation against her father’s successes in protecting forests. Here she recalls her mother’s stories of how her father had received “Threatening and anonymous letters” that he would “be put out of the way” unless his patrols and seizures ceased. Tekahionwake also recalls here the warnings of her Grand Father, the Mohawk Pine Tree Chief, John Smoke Johnson. These were that, “They will kill him if they can, those white people. They have been heard to threaten.” These letters “threatened to burn his house down in the dead of night, another to maim his horses and cattle.”

“Her Majesty’s Guest” was written as a fictional essay by one of the enemies of George Johnson’s forest conservation work. He is named as Dan McLeod, inspired by the real first attempted murderer of George Johnson, John Mills. Like the fictional Dan McLeod, John Mills actually spent “five years in the Kingston Penitentiary, the guest of her most Gracious Majesty, Queen Victoria.” Both the real and fictional villains were “handcuffed, jailed, tired, convicted of attempted assault and illicit whisky trading on the Grand River Indian Reservation.”

In “Her Majesty’s Guest” Tekahionwake describes some of the environmental damage caused by flooding from deforestation in the Grand River watershed. There is a dramatic confrontation between Barrett and McLeod during an actual ice flood which was known as the “Onondaga Jam.” During this flood Barrett obtains McLeod’s arrest and gives shouts of joy heard “above the roar of the grinding jam” followed by “the deafening thunder of the Onondaga Jam, that loosened by the rain was shouldering its terrible force downwards with its deafening thunder and roar of a million drunken demons.”

Fee and Nason’s anthology is helped by a review of Johnson’s writings by a friend of her father, the anthropologist Horatio Hale. They note that his vividly accurate historical accounts of the Six Nations unfortunately did not receive the widespread circulation of William Wadsworth Longfellow’s fictionalized account, which included influences from European folklore. The dating of Hale’s 1896 review of “The White Wampum” shows that it was written before Tekahionwake described her father’s forest conservation work. This Hale supported, documented and popularized. Hale’s tribute to Tekahionwake based on her poetry is revealing of the challenges the Red Progressives faced.

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With surprising frankness he wrote of her poems that, "Though natural in a descendant of the wronged, they are not the most agreeable reading for the descendants of the wrongdoers."

One of the most revealing of the tributes to Tekahionwake in the anthology was written as an obituary tribute by the influential environmentalist Ernest Thompson Seton. It records an enduring friendship of twenty years, which began after Tekahionwake attended a painting exhibition of Seton's work on wolves at a Toronto art show. Here she was moved to adopt Seton as a "Medicine Brother" since "she herself was of the Wolf Clan on Mohawks," which allowed her father to be a traditional chief.

Seton was comforted that the reality of Tekahionwake's work affirmed his belief that Native North Americans actually were guardians of the natural world. As a critical force in establishing Canada's national park system, most notably Wood Buffalo, Seton was well aware of the challenges conservation involved.

Tekahionwake's life to Seton demonstrated that they could have, "Love of the blessed life of blue air without gold lust." Seton loved how Tekahionwake could be "at home equally in the salons of the rich and learned or in the stern of the birch bark canoe."

By dramatically bringing to Canadians an image of Johnson as a combative Red Progressive carrying on her parents work in defending forests, Fee and Nason have shaken up stale concepts of Canadian history. It is to be hoped that such interpretations will be more routine and that forest history will be a less specialized discipline.

Sylva Recap

The Ontario Department of Lands and Forests published for many years a journal titled "Sylva". The purpose of this journal was to highlight changes in policy, ecology facts, information about the activities of the Department, contributions of individuals and the comings and goings of staff. "Sylva" contains nuggets of Ontario forest history. One "nugget" from "Sylva" will be selected for each edition of the Journal. The following was provided by Sherry Hambly.

Fisheries Research in Algonquin Park by R.R. Langford Reprinted from *Sylva* Volume 4 (2): 24-32, 1948

An extensive programme of fisheries research is being undertaken in Algonquin Park through the co-operative support of the Department of Lands and Forests, the University of Toronto and the Ontario Research Commission. The current investigation is directed towards an understanding of the factors responsible for the production of game fish in the lakes and streams of Ontario's northland. It is aimed at improving such production. The research involves a study of a variety of game fish populations in lakes ranging from a few acres in extent to those many square miles in area, and in streams differing from one another to a similar degree. In these, a fish management policy is being built upon sound biological knowledge and tested fisheries methods. In addition, experimental investigations are proceeding with a view to improving the natural environments in these relatively infertile bodies of water, with the expectation of increasing their productivity.

This integrated investigation is based on a background of some ten years' fisheries work in the area. In 1935, it was foreseen that when the new highway through the southern portion of the Park was completed, many park waters would soon be subjected to much heavier fishing than previously. Therefore, an examination was begun of the biological resources of the waters of the Park, with a view to maintaining and improving sport fishing. A field laboratory was established at Lake Opeongo in 1936, and summer field parties have continued to work from that centre since that time.

Much of the early field work consisted of the collection of information relative to the fish populations of particular lakes, and of obtaining a knowledge of the physical and chemical environments of the lakes themselves. Only by familiarity with the conditions in an individual lake could a wise fish-management policy be inaugurated.

To obtain a knowledge of the populations of the important game fishes in a number of lakes near the highway, a creel census was established, by which the angler's catch could be measured. In addition, a certain amount of gill-net fishing was carried on to supplement the information obtained from the anglers. In the main, it was the excellent co-operation of the anglers which was responsible for the information necessary for an understanding of the sporting fisheries of Algonquin Park lake.

Not only were the numbers of fish taken from these lakes determined, but also the size, the age, and thus the rate of growth, the effort required to catch fish in different years, the feeding habits and the state of maturity at different ages, were investigated. This biological information was valuable in determining changes in the status of a population over a period of years. Decrease in average size and in the number caught per unit of time point towards depletion of a population. The supplemental biological information is necessary to assess the extent of such depletion, and aids in determining what remedial measures might have the best prospect of success. The long-term records of the creel census that have been collected in the Park are now extremely valuable in the assessment of population change in a number of lakes.

Lake trout and speckled trout are the most desirable game fish in the Park, although the various

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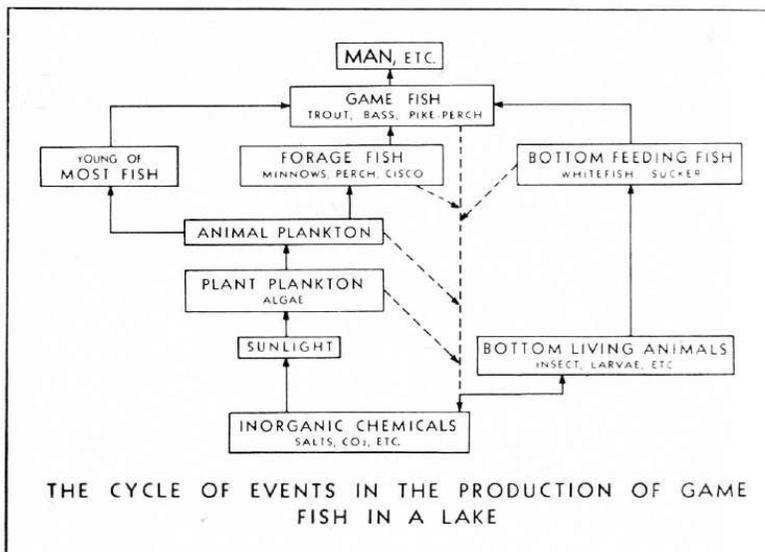
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lakes and streams differ greatly in their productive capacities with respect to those species. In 1947, two lakes and one stream were selected for intensified study of their trout populations. Lake Louisa stands high in the production of lake trout, and was chosen for an investigation of the factors responsible for such production. A survey of spawning activities of the lake trout in Lake Louisa in October and November was of particular value. Redrock Lake provides better angling for speckled trout than for lake trout, although both species are taken from the Lake. Redrock Lake was therefore investigated with regard to the production of both species. The Lake has, for the past ten years, been closed to fishing in alternate years, to prevent severe depletion of the spawning stock and to provide larger fish in greater abundance. In spite of relatively intense angling pressure, a high level of quality has been maintained for the period, and the current findings confirm the value of alternate closure as a management practice in this situation. Lakes frequently provide better speckled trout angling than streams of the region, since most of the large streams are the warm outflow from lakes. A survey of food, growth and migration habits of speckled trout in Clarke Creek has been carried on in order to compare the stream population with those of confluent lakes.

For many years, the laboratory and resident Park staff have co-operated in the planting of speckled trout yearlings into a large number of lakes. Few instances of definitely improved fishing resulted from this procedure. In later years, the planting programme has been reduced to the planting of marked fish into a few lakes, which did show improvement previously, and the experimental introduction of fry and yearling trout into feeder streams, small permanent streams in which trout could be expected to remain for at least a year before moving down to the lakes.

In addition to the information relative to trends in game fish populations in a number of lakes and streams, considerable information is now at hand pertaining to the physical and chemical characteristics of these bodies of water and to the other aquatic organisms inhabiting them. These organisms and their interrelations in a lake are of importance, since they ultimately contribute to the production of desirable fish. Part of the present research is aimed at a more accurate evaluation of the factors, physical, chemical and biological, which are responsible for production in these lakes, as well as experimental measures directed at improving such production.

As on land, the basic producers of food materials in the aquatic environment are the green plants which derive their nutrients from the dissolved minerals in the water, and utilize the energy of sunlight in the synthesis of food. The important plants in this respect are the multitudes of almost microscopic algae which float about in the upper waters of our lakes. These are fed upon by similarly minute animals known as the animal plankton. Both of these groups, plant and animal forms, are extremely abundant in productive waters, numbering in the tens of thousands in a quart of water.



Animal plankton serve as food for the young of most fish after hatching. Some fish, cisco or herring, perch, minnows and even trout at times, feed upon this microscopic food as adults. The larger game fish - trout, bass, pike-perch and lunge, are the final aquatic carnivores in this food chain, feeding on minnows, perch, herring and the young of all species.

In conjunction with this more or less direct food chain is another important division

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which involves bottom-dwelling animals. These are the developing stages of aquatic insects which later emerge as adults about lakes and streams. Clams, snails and aquatic worms also belong to this group which, living on the bottom of the lakes and streams, feed on the organic matter continually sifting down from above as the plankton and fish life die, settle out and are partially broken down by bacteria. Certain fish are well developed for sucking up the bottom mud and screening out of these food organisms. Whitefish and suckers are such bottom feeders and are intermediate links in this chain leading to the production of game fish. Minnows and perch take considerable amounts of bottom fauna in their diet, and are known as forage fish in the complicated cycle of food in the lake.

Terrestrial animals, chiefly man, take the larger game fish and remove finally from the water, food materials which are replaced but slowly, particularly in this relatively infertile region of the precambrian shield. When such lakes are heavily fished, the working capital in the form of inorganic minerals is drastically reduced and the production of algae is lowered. This can but mean lowered production in subsequent levels of the food chain.

Part of the research programme in Algonquin Park involves the study of the inorganic chemicals of those waters. Not only are the amounts being determined but they are also being increased in four experimental lakes by the addition of commercial fertilizer. The utilization of the chemicals themselves is being followed by regular chemical analyses of the water. Samples of the algae and animal plankton taken at the same time indicate changes in these populations coincident with changes in the concentration of nutrients. The increase in certain algae after fertilization is rapid and startling in its abundance. Although many kinds of algae are produced which are not used by the animal plankton, the nutrients bound up in these forms will return to circulation in the lake when they die and decompose, and much of this material undergoing decomposition will provide food for the bottom organisms. The animal plankton also increases after fertilization, but lags behind the increased production of the algae.

The bottom fauna is also being sampled regularly in order to follow any changes in its abundance as a result of fertilization. The forage fish populations in the four experimental lakes and a check lake are under investigation to determine the population density, rate of growth, feeding habits and distribution. The work of 1947 was preliminary in both of these fields, and it remains for the future to indicate the changes in these populations resulting from fertilization. The creel census will yield information regarding improvement in game fish production over a period of years subsequent to the addition of inorganic chemicals.

Drainage waters, inflowing from a watershed, contribute inorganic minerals which change in amount and composition during the season. Similarly, the outflow carries varying amounts of these same materials away from the lakes. It is necessary to determine the magnitude of the natural supply of dissolved salts, relative to the amount added artificially by fertilization, in order to assess the value of the latter practice. The amount and chemical content of water of all inflowing and outflowing streams of each of the lakes was determined throughout the summer of 1947. One measurement from this survey indicates the significance of fertilization. Kearney Lake received 14 pounds of phosphorous through inlets and lost 5 pounds through its outlet during the summer. In comparison to this, some 1200 pounds of phosphorous were added to this lake in the fertilizer.

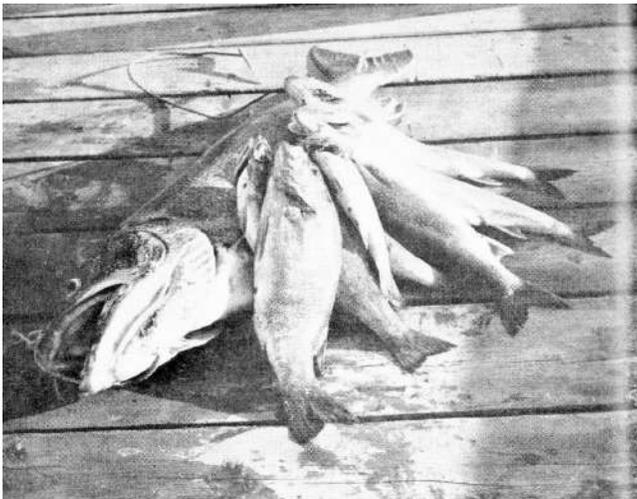
The microscopic plants are dependent, not only upon dissolved chemicals, but also upon the amount of light which penetrates the water to the depths at which they live. Since the coloured waters of our northern lakes absorb a high percentage of the daylight passing into the water, it is of importance to know the penetration of light in particular lakes in order to evaluate their productive capacities with respect to this factor. This is particularly true of those lakes where the nutritive

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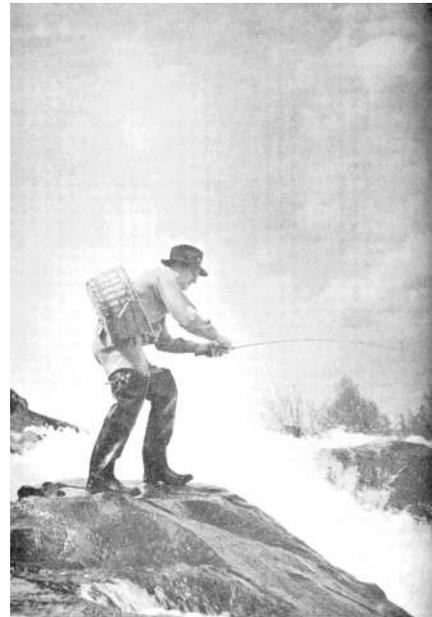
chemicals are supplemented artificially. Light penetration measurements were made on a number of Park lakes in 1947. These indicate that the surface layer, capable of producing plant growth, varies from about one yard in the highly coloured waters, to some seven yards in the clearer lakes. It is probable that the addition of fertilizer to the highly coloured lakes would not increase their productivity significantly, since the radiant energy available to the algae is so small.

The experimental investigation of the fisheries of Algonquin Park involves each link in the chain of events leading to the desirable species of game fish. It is providing a more complete evaluation of the factors which influence the production of living matter in the aquatic environment. In this, it is aimed at the possibility of modifying the environment, and hence increasing productivity. In general, the research parallels the trend of modern experimental agriculture, and although much has been achieved, much remains to be discovered.



This catch includes a 32 lb. lake trout

K. M. ANDRESEN



Fishing the white-water of a Northern stream

K. M. ANDRESEN

Young Canada goes fishing

K. M. ANDRESEN

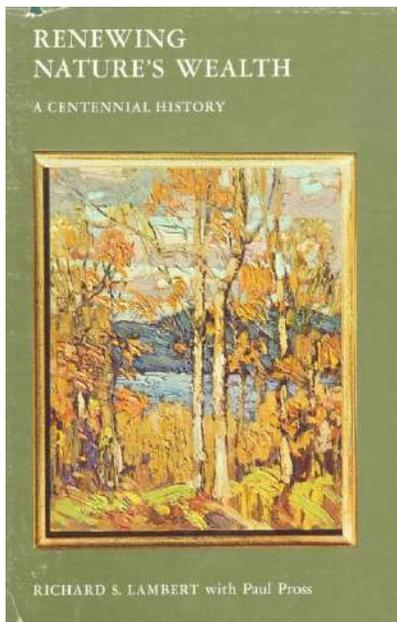


Where the speckled beauties lurk

K. M. ANDRESEN



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: “*Renewing Nature's Wealth*, the exciting story of Ontario's natural resources, is described by Premier 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.

Chapter 21 Fish and Wildlife Management Part 1, Fish

Early explorers and settlers were amazed at the abundance of fish and wildlife in the area now called Ontario. This led newcomers to believe there was an inexhaustible supply of these resources, which led to gross wastage and destruction and the eventual extinction of some species and diminution of others.

Ontario's fish and wildlife was one of the first natural resources to be exploited. Fur trading in Ontario's north was an established industry before the province was explored. The Great Lakes became an important inland fishery early on. From earliest times fishing and hunting were important sustenance, recreational and tourism activities.

Early concern expressed by garrison officers and later sportsmen-naturalists about the wanton harvesting of these resources led to the enactment of fish and game conservation laws (*Game and Fish Acts* of 1821 and 1856; *Fisheries Act* of the same period). The laws were relatively toothless due to the lack of enforcement.

Newcomers did not recognize that the destruction of habitat from clearing and extraction had a greater effect on fish and wildlife populations than did fishing and hunting. This concept was not recognized until the early 1900s. Productive planning and management of these resources did not really begin until the department of Game and Fisheries was merged with the Department of Lands and Forests in 1946. This merger did not have an easy transition for a variety of reasons, but particularly because politics had played such a strong role in resource management to this point. For the first 25 years after confederation, while there was paper legislation for the management of these resources, there was constitutional wrangling over jurisdiction. The *British North America Act* gave jurisdiction over fisheries to the federal government and wildlife to the provincial governments. The *Game Act* of 1856 was re-enacted in 1868 and provided for shorter seasons but was ineffective due to lack of enforcement capability. Ontario passed the *Fisheries Act* in 1885, placing control and management of inland waters under the Department of Lands and Forests. But little progress was made until the Dominion-Provincial squabble over jurisdiction was settled in 1898. This settlement

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returned a large portion of jurisdiction over fisheries to the provinces. By this time this resource was in steep decline.

A keen Ontario sportsman-naturalist, Dr. G.A. MacCallum, and several like-minded men, persuaded the Ontario government to appoint a Royal Commission on Game and Fish in 1890, with MacCallum as the Chair. The report of the Commission, published two years later, was a sweeping indictment of the current status and management of fish and game in the province (noting in particular rampant unethical practices that had led to the extinction of some species (Atlantic salmon, wild turkey, passenger pigeons). The report also noted that this state of affairs was terrible for both recreation and the tourism economy. The primary recommendations of the report were to create a Game and Fish Commission and to enhance enforcement by increasing Game and Fish Warden numbers.

The report gained significant public support that led to the rewriting of Game and Fish laws for both recreational and commercial fisheries. These laws established seasons, limits, increased penalties and gear standards. The Game and Fish Commission was established and the number of Game Wardens was increased. In 1898 a separate Fisheries Branch was created. Fish and Wildlife management was remerged in 1907 with the establishment of the Fish and Game Department. Another Royal Commission, chaired by Kelly Evans, was established in 1909 to review, once again, the state of fish and wildlife in the province. The resulting report recommended increased and more professional enforcement and led to the elevation of the branch to that of a department with its own Deputy Minister in 1914.

From 1907 to 1946 the fish and game program made steady progress in conservation laws and enforcement. Management began to be based on science. Large areas were set aside in northern Ontario to ensure permanent survival of fish, game and furbearers. Fish stocking began, leading to the development of several fish hatcheries. Increased conservation ethos within the general population led to the establishment of many fish and game clubs across the province. The importance of fish and game to the tourism industry was recognized and promoted.

The scientific basis for management was enhanced in 1925 with the establishment of a section to oversee biological studies of provincial waters. In 1926 an experimental fur farm was established in Kirkfield. A laboratory for studying diseases of fur-bearing animals was also built. Falling markets for furs during the Depression led this program to be transferred to the Ontario Veterinary College at Guelph.

Hunting pressure increased after the end of the Second World War due to greater access to automobiles, especially on the introduced ring-necked pheasant and the escaped European hare. Hunting pressure was so great on opening day of pheasant season that volunteer deputy wardens had to be used to control hunting activity.

The Department of Game and Fish and Department of Lands and Forests were amalgamated in 1946 into the Division of Fish and Wildlife. The main purposes were to reduce political influence, to maximize use of communication and transportation capabilities, and to improve natural resource management, through greater contact and cooperation among the staff, especially at the local district level. This merger led to a shift from protection and conservation to scientific management. From 1946 to 1964 the number of fish and wildlife staff grew from 127 to 318. There was an increased focus on the education of these staff through courses at the new Ranger School at Dorset. Conservation Officers were established. A grant from the federal government placed emphasis on improving trapping management.

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The *Wilderness Act* was passed in 1959 and gave rise to the establishment of large tracts of land where wildlife research could be conducted. In 1962 the province signed a ten-year agreement with the federal government that provided funding for a variety of resource management development activities including fish and wildlife. A second federal-provincial agreement was reached in 1959, in which the federal government undertook responsibility for sea lamprey and general fisheries research on Lake Superior, with Ontario responsible for research and data collection activities on commercial and recreational fisheries on the remaining Great Lakes.

In 1960, Dr. C.H.D. Clarke replaced Dr. Harkness, after his death, as the Chief of the Fish and Wildlife Division. His stated policy direction was to shift emphasis from protection to scientific management in such a way as to provide for, and promote, the widest possible use by the public of the province's fish and wildlife resources, consistent with principles of conservation and sustained use. He also stressed that forestry activities and management were important tools for wildlife managers to learn to use.

Two key commercial fish species, the Atlantic salmon and the sturgeon, declined during the late 1800s. The sturgeon disappeared due to over exploitation. The Atlantic salmon decline was caused by loss of stream habitat caused by obstruction and pollution from industrialization. Industrialization also brought the Welland Canal, completed in 1829, which allowed sea lamprey to migrate to Lakes Erie, Huron and Superior. Sea lamprey were first found in the upper Great Lakes in 1921. The trout and salmon of Lake Ontario were adapted to the sea lamprey, but those in the other Great Lakes were not. The introduction of the sea lamprey devastated these populations and the commercial lake trout fishery in these lakes had collapsed by 1946.

In response to this turn of events, Canada and the United States signed a treaty in 1955 whereby both countries would conduct research and management to control the sea lamprey under the aegis of the Great Lakes Fisheries Commission. The most significant outcome was the identification of a sea lampricide, which was successful in controlling this species.

For the better part of a century conservationists relied on fish stocking as the antidote to overfishing. But the science was not developed well enough for this program to provide substantial benefits for these two species. It was eventually discovered that fish stocking was most effective at re-establishing lost or diminished populations, and it was used in this manner to help re-establish the lake trout populations of the upper Great Lakes.

Stream pollution, caused primarily by sawdust and topsoil effluent from farms, was the key cause of the decline of Atlantic salmon. Due to excessive deposition of organic matter onto the bottom of Lake Erie, the populations of whitefish, herring, and pickerel were replaced by perch and smelt, and a commercial fishery has developed for these latter two species.

Due to conflicting information on the effect of pollution on fish populations, the province began, in 1926, a series of studies to detect pollution in various areas. This program was also employed in the later 1940s. Based on these results the Department of Health, the Ontario Research Council and the Department of Lands and Forests began to cooperate more closely on the water pollution problem. Prosecutions rose and a Pollution Control Board was created in 1952. The responsibilities for investigation and control of water pollution were transferred to the Ontario Water Resources Commission in 1957. The province initiated a program in 1961 to determine the extent of pollution in plankton populations in the Great Lakes.

This part of the chapter ends on the note that the management of fish in Ontario has a long history,

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starting with the establishment in 1885 of a closed season on speckled trout. It is suggested that the most significant regulation was made in 1903, when the sale of game fish was prohibited by Order in Council. This caused an increase in the harvest of bass and maskinonge, the two species reserved solely for sport fishing. By the late 1800s fishing was an important part of the tourist trade and non-residents had to buy a license to fish. By 1932 movement of minnows between waters was not allowed in an attempt to limit the spread of noxious species of fish.

This section ends by stating that fish management is now based on information gained from lake and stream surveys, fish population studies, creel census and commercial fish harvest data. In addition, hatchery fish have a significant value in fish introductions, put and take lakes and the augmentation of natural populations during times of stress.

During the 1950s and 1960s management practices began to change - through the relaxing of angling regulations, the removal of coarse fish from small inland lakes, and the improvement of public access to natural waters, among other changes.

In Memoriam: Victor Gordon Smith

SMITH, Victor Gordon. Passed away peacefully at his home on Wed, April 15th, 2020. He was 92. Vic was born on May 24, 1927 to the late Lewis and Florence Smith (nee Wilson). He grew up in Toronto, ON where he graduated from Lawrence Park Collegiate in 1945. He obtained a BSc in Forestry from the University of Toronto in 1949. Vic worked for the K.V.P. Co, Espanola, ON, as a District Forest Engineer from 1949 to 1963 while living in Ramsay and Sudbury, ON.



Vic married Mary Taylor Avery on May 22, 1954. Together they decided Vic would enroll in U of T's Faculty of Forestry Master's program and move to Toronto with four small children in 1963. After completion of the program the family moved to Lake Linden, MI where Vic taught at Michigan Tech. The family moved to Ames, Iowa in 1966 where Vic earned a PhD in forest measurement and statistics at ISU. In 1970 Vic began his career at U of T's Faculty of Forestry where he would stay until retirement in 1992. In addition to his many duties as a full professor and associate dean, he served as a member of the University Governing Council from 1984 to 1992. He loved learning and research, which was evident throughout his career and even into his retirement with the publication of his last scholarly paper at age 84 - with plans to update it this year. After retirement his energy turned to the cottage where he, Mary, his children, grandchildren, and many friends spent many happy days. Vic always had to have a project and the cottage provided an inexhaustible source. From buildings, to boats, to docks, he never seemed to tire doing his own or helping friends nearby. The family will always be grateful for our time spent together at Limerick Lake.

Vic loved to sing. His voice could be heard filling out the bass section at Humbercrest, and later King St. United Church. When prodded, he could play a pretty mean harmonica.

Vic is survived by his loving wife Mary, his children Mary Anna Lacey (Clive), Elizabeth "Liza" Minns (Marko Yanishevsky), Gordon Rymal "Ry" Smith (Ruth) and Susan Aide (Terry). Proud granddad of Gordon, Victor, Alison, Tabitha (John), Joel, Benjamin, Rachel, Jeremy, Carrie, Rosemary, Laura (Dave), Paul, James (Beatrice), Matilda "Tillie" and Russell. Great grandfather to Ada, Alex and Ashling. Vic is survived by his brother, Lewis.

Many thanks to the staff of Season's Retirement Residence in Trenton and to the VON and all those who provided homecare in Vic's last years. He spoke highly of all those who were there for him. A service to celebrate Vic's life will be held at Wooler United Church at a future date. Memorial donations to the Heart and Stroke Foundation or the Canadian Wildlife Federation would be appreciated by the family. Online condolences at www.weaverfuneralhomes.com

From the University of Toronto Website:

Professor Emeritus Victor "Vic" Smith recently passed away on April 15th. Both a student and faculty member of the Faculty of Forestry, Dr. Smith first earned his BScF in 1949. After venturing up north to work in Espanola, Ontario as a district forest engineer, he returned to the Faculty in 1963 to complete his MScF. Then it was onwards to Iowa State University for a PhD in forest measurement and statistics.

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In 1970 Dr. Smith and his family resettled in Toronto to begin his teaching career at the University of Toronto and stayed at the Faculty of Forestry until his retirement in 1992. His teaching and research focused on forest mensuration and he played a very major role in the education of professional foresters.

According to one former faculty member:

“Most students and faculty will remember Vic for his tireless energy as the leader of Spring Camp at Dorset and the Petawawa National Forestry Institute. This was the students’ first exposure to traditional field methods of timber cruising. Vic stressed the need for accurate data collection, good record keeping, and rigorous analysis of the data. Lessons learned at Spring Camp under Vic’s leadership set the groundwork for other field courses and future careers in forestry.”

And a former BScF student reflecting on Dr. Smith’s many important contributions:

“When I entered the faculty, Vic was legendary as the lead for the spring camp at the end of first year which focused on field measurement techniques, but was the first immersion for students in what it meant to be a field forester. Moving through the bush with compass and chain, closing transects, using a prism, and gathering, then analysing cruise data – rain or shine – was formative for all forestry students of the day. And Vic Smith led the cadre of instructors and professors – teaching both the finer points of field work, mensuration calculations, and getting the precision right at the end of the day.

Dr. Smith also taught 2nd year Forest Mensuration – another pivotal course for forestry students to understand a core skill – sorting out volumes and yield curves from sample data. In addition, he advanced the science through research and the supervision of graduate students. His legacy informs the calculations foresters use regularly but the public seldom see or understand. As part of the Faculty of Forestry for several decades, he helped to shape hundreds of professionals entrusted with forest planning decisions across Canada.”

Not only was he a full professor and associate dean, Dr. Smith also served on the University’s Governing Council from 1984 to 1992. A busy man, even in retirement, he loved his learning and research, completing scholarly papers with plans to update past findings right up until this year. A service to celebrate Dr. Smith’s life will be held at a later date. Details and donation information can be found at: [Weaver Funeral Homes Obituaries](#)

Forest History Society of Ontario

Membership Form

Thank You For Your Support!

<p>The mission of the Society is: “To further the knowledge, understanding and preservation of Ontario’s forest history” and to accomplish this with the following objectives:</p> <ul style="list-style-type: none"> To preserve forest and forest conservation history; To encourage and further the development and recognition of forest history; To support research and studies of forest history; To support the archival preservation of records and materials relating to forest history, and To promote the better understanding of forest history through public education. 		<p>The Society has two ongoing projects, both available on our website:</p> <p>www.ontarioforesthistorv.ca</p> <p>The first is a catalogue of publications dealing with all aspects of Ontario’s forest history. Members can submit contributions on our website.</p> <p>The second is the identification and listing of collections and materials relating to Ontario’s forest history. The Society works with established archives such as the Archives of Ontario and several university archives to facilitate the preservation of significant collections.</p> <p>The Society publishes a newsletter, Forestry, twice a year – Spring and Fall - containing informative articles on Ontario forest history.</p>
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 (The FHSO has a privacy policy. Your information will not be shared or sold.)

You can initiate or renew your membership online by clicking on the link below:

<http://www.ontarioforesthistorv.ca/index.php/membership>

Or, by filling out and submitting the form below, with your cheque, to the address listed below:

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Phone		Email			