



Forestory

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From the Claybelt to the Trent Watershed



Norembega, east of Cochrane, 1920.

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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, websites or other items that would be suitable for inclusion in the newsletter? Do you have a comment about something you read in a previous issue? If so, contact Journal Editor, Caroline Mach, R.P.F., at editor@fhso.ca. Deadlines are April 1 and October 1.

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Chair's Message

By: Jim Farrell

I admit that I am stuck on a weather theme. It's the first week of April, the maple sap run has pretty much wound up in most places around here, the tulips are up about three inches in the front garden, the cardinals are frisky (not those ones!) and there is a howling blizzard out there that's been battering Ottawa for 12 hours and is forecast to continue until tomorrow morning. An April snowstorm is nothing unusual, but after a record warm winter with very little precipitation, it is uncommon and yet another reminder that things are changing, and the past is no longer a reliable predictor of the future...certainly where weather is concerned.

Since our last Issue of *Forestory* we have had an article on the fall forest history tour in the Hanover-West Grey area published in the Spring 2024 issue of *The Ontario Woodlander* <https://www.ontariowoodlot.com/Library> and the highly detailed tour guide is being published in this journal, *Forestory* [Forestory Journal \(fhso.ca\)](http://ForestoryJournal(fhso.ca)) and on our website.

In January, 2024, we convened a virtual 'Special Meeting' of members to seek approval for revised Articles of Incorporation and new by-laws to align with the requirements of the new Ontario *Not-for-profit Corporations Act* and to confirm approval for our new name, Forest History Ontario, all of which is now approved by the Ontario government.

Our February virtual Annual Meeting marked a record attendance of over 40. In addition to the regular business meeting of approving reports and budgets, we heartily thanked two Directors rotating off (Rob Galloway and Dolf Wynia) and welcomed a new Director, Greg Pawson. A new feature this year was the addition of a guest speaker, Dr Martin Fairbank, [Martin Fairbank | Consulting | Resolute Roots author | Montreal, Canada | Home](#) who provided a brilliant history (1820-2020) of Resolute Forest Products, based on his book, *Resolute Roots*. Martin's presentation is on our website.

As of 2024, FHO is now officially part of the annual Forests Ontario Conference and this year's gathering was held on February 28 in Vaughn, Ontario. We planned and delivered one of the concurrent panels entitled "Changing Forest Landscapes" attracting over 100 forest history supporters. Moderated by Dr. Amelie Roberge, Director General, Canadian Wood Fibre Centre, Canadian Forest Service (Ottawa) the panel included three speakers:

- Lacey Rose R.P.F., County Forester, County of Renfrew who spoke on the history of human impacts on forest landscapes in Renfrew County.
- Dr Dave Martel, Professor Emeritus, University of Toronto who presented on a history of Ontario fire management policies and strategies over the last 100 years.
 - Ken Farr, Manager, Science Integration, Canadian Forest Service (Ottawa) provided a fascinating timeline of forest and tree changes over the millennia, driven by invasive pests.

While the presentations were not recorded, we will have their slide decks posted on our website. In addition, Board Director and Treasurer Brooke McClelland stepped in to save the book sale (Terry Schwan, the founder and manager, was laid up at home nursing a bad ankle) raising funds for the Frank A. MacDougall Forest History Trust Fund.

Plans are underway for a June 14 forest history tour in the Guelph area and

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information will be posted on our website and has been distributed to members.

I am delighted to announce that we have recently welcomed three new corporate sponsors: York Region, the Ontario Forest Industries Association, and the Ontario Ministry of Natural Resources and Forestry. Keep an eye on our website as we recognize their contributions. As a volunteer organization we rely entirely on members to organize events, contribute articles and stories, and deliver activities, and are very grateful for all their work and all members for their ongoing support. I again remind you that we have a very functional 'DONATE' button on our website and encourage you to give it a whirl.

Enjoy another great read and deepest thanks to Editor Caroline for all her hard work and creativity.

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A History of Forestry in the Cochrane District

By: Michael Rosen, R.P.F.

The following article was first published in the Northland Post (Cochrane, ON) on May 4, 1988, for National Forest Week (which was still in May at that time). The author was a Forester-in-Training with the Ontario Ministry of Natural Resources and researched his article through the Ministry archives and personal communication with employees. Note that the names of the government departments, companies etc. reflect how they were known at that time.

Forestry, the MNR and the development of the Cochrane area have all been interlinked since the beginning of the 20th century. Even though it has gone through many organizational and name changes, the Ontario Ministry of Natural Resources has played a very important role in guiding the development of the resource industries in this part of Ontario. As part of National Forest Week, this article will attempt to briefly trace the development of forest management and the forest industry within the Cochrane area.

Early History

Little was known about the forests of this area prior to 1900. Brief descriptions appear as part of the diaries of the early French and English explorers who were exploring this area for their respective governments and companies in search of furs. Real development did not take place until the decision by the government of Ontario to attempt to survey and settle this area in the early years of the 20th century.

The Era of the First Settlements (1900-1920)

Forestry, agriculture, hydro-electric development, the expansion of the railways and the first mining enterprises all developed at the same time and were all inherently linked and interdependent on each other. In 1898 A. Niven, Ontario Land Surveyor was responsible for surveying a line from Georgian Bay to James Bay. The surveying of this line (which today is known as *Niven's Meridian*) was part of a huge effort to map and estimate the geological, agricultural and forestry potential of the entire northeast part of Ontario which, at that time, had remained unknown. As a result of this survey (which was done at the cost of \$40,000, quite a large sum of money in 1898) it was decided by the Ontario government to build the



Abitibi Bridge on Highway 653, built in 1922.

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Temiskaming and Northern Ontario Railway from North Bay to New Liskeard, linking with Cochrane in 1907. This activity, coupled with the silver strikes in the Haileybury area and gold strikes in the Porcupine-Matheson area meant that a "boom" was under way as a host of prospectors, farmers, lumbermen and assorted "entrepreneurs" commenced to formally settle the region.

The first commercial timber operations in this area related to railway expansion. Railway ties and bridge timbers were produced at sawmills shortly after the establishment of the town of Cochrane (1908). The combination of an extremely dry summer, extensive land clearing, logging operations and prospecting activities led to the outbreak of the Great Porcupine Fire in 1911. The Cochrane portion of this fire destroyed practically all of the town of Cochrane and destroyed many homes in the outlying areas as well. Over 2 million hectares (or 5.5 million acres) of forest land was burnt in this catastrophe.

In 1912 S.O. Ogilvie and F.H. Anson of Montreal negotiated to take control of what was then known as the Lake Abitibi limits. Construction of a paper mill and townsite in Iroquois Falls on the Abitibi River began in 1912 with the mill commencing production in 1914. This mill represented the first such facility for the burgeoning Abitibi Power and Paper Co. Ltd. (which became Abitibi-Price Inc. and eventually Resolute Forest Products). The young company was farsighted enough to establish the first tree nursery in the Claybelt area – commencing construction in 1911 and going into full production in 1919. Evidence of out plantings from the Teefy township nursery can be seen in many areas adjacent to the townsite in Teefy township. A major sawmill/planing mill was established in Kendry and Haggart townships (now Smooth Rock Falls) by the New Ontario Development Co. in 1913. In 1916 a sulphite pulp mill was constructed by the Mattagami Pulp and Paper Co. in Smooth Rock Falls. This mill, complete with a generating station, was acquired by the Abitibi Power and Paper Co. in 1927.

With the continuing land clearing and logging operations, another season of dry weather meant that another major fire known as the Matheson Fire, began in 1916. This fire was even larger than the one in 1911 consuming a further 2.5 million hectares (or 6.4 million acres) and taking 223 lives with extensive property damage. As a result of this last fire the Ontario government decided that a system of fire protection had to be instituted. Originally the system was designed so that timber licensees and pulp concessionaires would pay a flat rate for fire protection. The collection of the money for fire protection purposes led to the initiation of the fire ranger system and eventually to the creation of the Department of Lands and Forests.

Fire protection, timber licensing and public lands administration were the prime responsibilities of the Ontario Forestry Branch in 1910. In Northern Ontario there were three Territorial Inspectorates of which one was in Cochrane. The Cochrane Inspectorate administered six separate Chief Rangers who oversaw the Districts of Cochrane, Abitibi, Timmins, Matheson, and New Liskeard. Therefore, the present-day system of Cochrane containing two offices, one for the Region (which was originally the "Inspectorate") and the other for the District (as it is called today) had its roots in 1910.

Finally, in 1920, two separate provincial departments were created: the Department of Mines and the Department of Lands and Forests. The main preoccupation with the Department of Lands and Forests at that time was the prevention of fires. This was accomplished by means of a system of Fire Rangers who directly patrolled (on the ground) a given area. Chronicles left by C. A. Stanbury (1922) portray the lifestyle of the Fire Ranger:

"On receiving notification by letter of my appointment as a fire ranger.....at Cochrane on May 15, 1922 I reported to Chief Ranger Tom Corrigan at 8 a.m. and was outfitted with a Velocipede No. 16, one tent 7' x 9', one cyclone wood stove, two water pails, one axe, one grubhoe, batching dishes for one man, one ground sheet, three pairs of blankets, two fire permit books, a monthly diary, a number of Fire Posters in French and English, a torch for grass burning, and a set of fire report forms.....I received instructions that my patrol was the Canadian National Railway from Mileage 12 to 26....in the townships of Calder, Colquhoun, and Bradburn....I did not have to use the tent for which I was very

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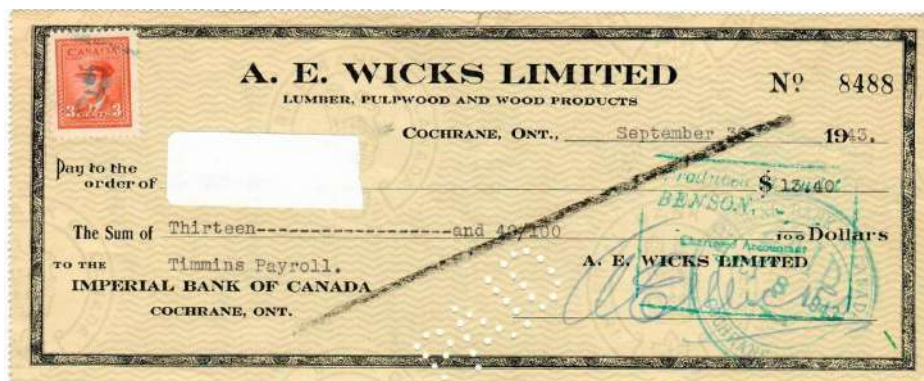
thankful, as that year at Driftwood there was an infestation of grass snakes.....A rough road with plenty of corduroy extended from Cochrane to Driftwood; there was no road connection with Smooth Rock Falls....Entertainment in the settlements consisted mostly of schoolhouse dances, socials, fishing and berry picking. Of course, the scarcity of money made home brew and dandelion wine quite popular....
["]

The Expansion of the Forest Industry: 1920-1960

Pseudo-settlers and bush farms (sometimes called "bogus settlers") were the most common type of loggers in the 1920s and even into the 30s. In many cases it meant the occupation of homesteader's land (allegedly for agriculture) only to strip it for the sake of pulpwood or larger timber. After this high grading was finished, abandonment was the final step. This practice was common in the Cochrane area with settlers staying only long enough to strip the timber and move on to a permanent home in Southern Ontario.

Up until this point no logging operations existed in the District north of the National Transcontinental (now called CN) tracks except for land cleared for agriculture. This all changed with the establishment in 1926 of the Hawk Lake Lumber Co. in various townships 20 to 30 miles north of Cochrane adjacent to the newly built railroad tracks of the Temiskaming and Northern Ontario Railroad (now called the Ontario Northland Railway). In 1929 the Cochrane Inspectorate was again re-organized and reduced to four Chief Ranger Districts – Cochrane, Abitibi, Timmins and Matheson. Also in 1929 was the construction of Ontario's first drainage experiment for forestry purposes. This was a cooperative effort between Abitibi Power and Paper and the Department of Lands and Forests, which used primarily Finnish immigrant labour to manually dig over four miles of ditches in saturated black muck soil. This project marked the beginning of a long history of forest research in which Cochrane District has led the province.

Until 1935 the management of timber resources was administered by Crown Timber Agents who dealt directly with Head Office (Toronto). This changed when in 1935 the first District Forester and Assistant District Forester were named, and all phases of forest management were brought under their control. It was in 1935 that A.E. Wicks Ltd. bought out Hawk Lake Lumber, establishing timber limits up to mileage 73, adjacent to the Moose River with a sawmill at Moose River Crossing and a head office in the same building as the present public library in the town of Cochrane. The stories abound about Aarne Wicks, a Finnish immigrant who through a combination of perseverance, good business sense and luck built up a thriving business in the classic lumber baron (Claybelt style, that is) tradition. When Wicks died so did his thriving company, with those limits eventually going to the Howard Smith Paper Co. of Cornwall, Ontario in the early 1950s. Then, in the late 60s these limits went to the Ontario Paper Co. of Thorold, Ontario (now part of Resolute Forest Products).



A cheque from A.E. Wicks Limited, a major sawmill complex in Cochrane, 1943.

Other logging operators, some with registered timber licenses, cut in and around the Cochrane area. Such companies as: Devlin and Shier, W. Straehorn, W. Trumbull, M.J. Labelle Co. Ltd., and T.B. Skidmore Forest Products all started up and were granted licenses in the 1940s. Small sawmills such

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as the Blackburn mill in Colquhoun township supplied sawn timber to residents.

With the formation of the Chapleau, Gogama, and Timiskaming Districts, the land area of Cochrane District continued to be consolidated. In 1949 the first timber supervisor was appointed, and in 1950 the first Management Forester was chosen. This coordinated with the establishment of the District's first MNR-run tree planting projects in 1950. In fact, reforestation was considered so important that a Reforestation Supervisor was appointed in 1954.

The people associated with the then Department of Lands and Forests were at times stern, sometimes strict, but usually in some way "colourful". There was Ted Hall the old District Forester from 1954 to 1965 – a big man whose tight-wadded tendencies were legend in the office. Besides forcing the District accountant to use both sides of the adding tape to compute the staff's pay, he was also known to travel along the then bumpy road to Timmins to purchase gas during one of the town's "gas wars" – only to find that on his return to Cochrane half the gas had spilled when the "jerry cans" overturned in the back of his truck!

The sixties were a turning point for forest management in Ontario, especially in the North. As tree planting began to be undertaken, the development of a whole new technology, that is, the growing, handling and planting of trees began in earnest. Ernie Bentley looked after the greenhouses which were put up in the District in the early 60s. Ernie, Allan Shier and others improvised and developed a variety of heaters, sprinklers, hoses, potting soil mixtures and other gadgets from scratch as there was no other place to get these materials cheaply at the time. Al could remember the innovation of using black plastic tubing five times as long as was needed on top of the black muck pile beside the office (which was used for a potting mixture) to warm the tap water to water the trees. Ernie remembers going into the greenhouses in the wee hours of many an early fall morning ready to carefully nurture the black and white spruce, and jack pine seedlings only to find a couple of hobos curled up around the oil heaters having a good night's sleep!

In 1962 the J.W. Fogg Ltd. sawmill and wood chip plant began producing just three miles north of Cochrane. Records from this era point with pride to the fact that some 10 million trees were planted between the years 1950-1962. This statistic is far less impressive today when one begins to realize that this amount is what is planted now in this District in one year! What is really amazing is that in those days slightly more wood (1.5 million m³ of wood vs. 0.9 million m³) was harvested on a yearly basis than today!

The Growing Mechanization of the Bush Operations

Cutting wood has always been regarded as one of the hardest and most difficult ways to make a living. This was especially true in the early days of this century when the bucksaw, cordwood pile and horse were the symbols of the profession. Although many systems were used, the prevalent one was to cut the wood into four-foot lengths in the fall and early winter and hand pile it into cord piles for easier scaling. Winter roads were constructed between the leave strips whereby horses equipped with large sleighs could haul the wood down to the water whereby it went to the mill by means of an annual river drive; or down to the railway tracks where the wood was taken by means of narrow gauge trains to the mill yard (as was the case with the Abitibi company). The horses were managed by the "barn boss" in the big camps who kept strict control of the health of the animals. Horse logging has always been regarded as the cheapest way to extract wood. It was also beneficial for the forest because it tended to leave a great deal of advanced growth and young seedlings to form the next crop of trees. But, as people lost their ability to use horses, and the need for greater productivity came to be, the horse rapidly gave way to other more advanced machinery.

Come the springtime, the logs were manually peeled by means of large peeling spuds before being

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processed by the mill. The use of horses rapidly gave way to crawler tractors and eventually the skidder in the 1960's, the bucksaw and swede saw gave way to the chainsaw in the 1950s, while the waterways and railways gave way to the cheaper and more dependable truck haul. The 4-foot system gave way to 8-foot, 16-foot, and finally today's tree-length and full-tree systems. Today, further innovations have replaced the chainsaw with mechanized feller-bunchers ("clippers") and feller-forwarders while the skidder has been replaced in some locations by feller-forwarders, tracked forwarders (as in Scandinavian countries) and extra wide-tire skidders.

But it was in the 1930s that men such as Bill Froud first started out with the Department. Patrolling the river systems by canoe, Bill was originally responsible for such things as enforcing fire permits, scaling company wood, and checking hunters for poached moose. Bill eventually became the Deputy Chief Ranger at Wade Lake Division and was known for his love of the bush and his "unusual" interviewing style. These "interviews" of which the young Bill Watson was subjected to, consisted of a barrage of questions, mostly concerning the applicants' preferences of alcoholic beverage. Needless to say, Bill Froud was known not to hire many teetotalers!



Walter Stanek (1926-2012) was a forest researcher who worked for OMNR and CFS. Walter was a Sudeten German (born in Czechoslovakia, served in the German army, and came to Canada in 1956). In Ontario he worked on drainage and black spruce in Leitch Twp near Cochrane. Walter completed his Masters at the University of Toronto under Ken Armson. The photo is of Walter with the Nellie Lake Scots pine.

From the 1960s and Beyond

Changes continued to occur in the administration and operations of forestry within the Cochrane area. At its peak (in the late 50s and early 60s) up to 2,000 men in 77 operations were working in the bush cutting, slashing, "rossing" (or de-barking) peeling, piling, loading, and driving to get the pulpwood and sawn timber to the mill and market.

In 1960 the Leitch Township Research Area was established opposite the Gardiner ferry by the Department's Research Branch, Toronto. A Research Forester (Walter Stanek) was employed to head this "crack research unit" with the young Gordon Clermont and Olavi Liimatainen as his willing assistants. Many out plantings of various species of trees as well as site preparation techniques were established at this time. Clermont and Cam Flood (who were Forest Rangers at that time) have many fond (and not so fond) memories of working with the German ex-patriate Stanek. Stanek was a man who thought nothing of going to work each day in his WW2 German Officer's overcoat and black boots a mere nine years after the war's end when kind comments about the German Army were not commonly heard!

Eventually the Research Forester position was taken over by J.K. (Mickey) McEwen. These were also the days of much new work in site preparation (prior to planting). Trials were done with the Madge Roto clear, shear blading and prescribed burning, especially in the Fournier strip cut blocks which are of great renown in Ontario.

In 1963 Cochrane Enterprises Ltd., a division of Normick Perron Inc. of La Sarre, Quebec (now part of

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West Fraser Timber) opened a poplar plywood manufacturing plant employing 160 people in the town of Cochrane. Nineteen sixty-eight saw the elimination of the Wade Lake Division as a Chief Ranger Administration Office while in 1970 the new Cochrane Chief Ranger Office (the present-day MNR office) was completed. The Canadian Forestry Service under agreement with the Department, established their field station at Wade Lake. This station proved to be the staging grounds for some very important forest research on the forests of the Claybelt.

The 70s saw a quick progression of events when in 1971 lookout towers were abandoned in favour of aerial detection, the last horse was used to skid wood by Abitibi-Price Inc. and the Ontario Department of Lands and Forests reorganized to become the Ontario Ministry of Natural Resources.

As a result of this reorganization, Cochrane District was separated out from Moosonee and Timmins as the Districts became smaller, and more streamlined, with employees reporting to Supervisors and a District Manager instead of to Deputies and Chief Rangers, and a District Forester.

There were other people well-known to the community as well: Bill Foreman, the man who always loved a good time, Lloyd Eckel, the ladies' man, and Bert Hutchinson, who may have been both but was best known as the Mayor of Lowbush and last Chief Ranger of Cochrane District. Bert, as everyone knows, loved to have a good time – so much of a good time in fact that he has been known to make quick exits from staff Christmas parties in a rather unusual way – out the 2nd floor window! From then on, when it came to making out-of-town hotel reservations, they made sure it was for the ground floor...

Further industrial expansion occurred in the 1970s when a stud mill opened as part of Abitibi's Smooth Rock Falls pulp mill, and Normick Perron opened a new sawmill beside their plywood mill in Cochrane which employed another 250 people.

The 1980s have continued to be interesting ones for forestry in this area. The reforestation effort was stepped up during the 80s with the advent of the Forest Management Agreement (F.M.A.) and the first privatized containerized seedling greenhouses. Abitibi-Price Inc. signed the province's first F.M.A. in 1980 and at present plant some 5.6. million seedlings in Cochrane District. The Quebec and Ontario Paper Co. (whose mill is in Thorold, Ontario) later signed a similar agreement making these companies for the first time in Ontario's history responsible for all regeneration and planning on Crown land.

The increasing privatization of tree planting to the point where approximately nine million seedlings are planted by F.M.A. companies and another three million by contractors to the M.N.R., has had a large effect in changing the nature of the work within the District and the employment of seasonal labourers. Further efforts have been made to extend the role of research work within the District as a variety of new trials looking into such topics as clonal forestry, growth and yield analysis and forest drainage have been recently established through the MNR's Northern Forest Development Group. Lately, the Abitibi-Price pulp mill in Smooth Rock Falls has been sold to Malette Kraft of Timmins, with the closing of the stud mill part of the complex. At present the forest management program in Cochrane District continues to be a mainstay of the area's economy.

Approximately 12 million trees are planted on 5,201 ha (12,852 acres) in this District with another 1,592 ha (3,934 acres) regenerating by natural means. With 972,600 m³ cut in this District each year the forest industry represents a stable and important part of the area's livelihood.

People Make The MNR

The history of the Cochrane area has been quickly tied in with the history of the Department of Lands and Forests, the forest industry, and now the Ministry of Natural Resources. It is the people who have always made this organization special, with this tradition continuing to this day. When we think of the importance of our forests to this area let us not forget the loggers, mill workers and

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MNR staff who give this industry its special place.

Author's update (2024)

Although the pulp mills in Iroquois Falls, Smooth Rock Falls and Thorold closed, (in 2014, 2006 and 2017 respectively) wood continues to be cut and forest products continue to be produced in Cochrane District with an average of 812,000 m³ of wood cut per year (vs. 972,600 m³ when the article was written almost 40 years ago). Mills within the Town of Cochrane include Rockshield Engineered Wood Products (poplar veneer) and Green First Forest Products (conifer sawmill). Outside of Cochrane, wood from the District is directed towards the Georgia-Pacific mill in Englehart (poplar-oriented strand board), Interfor in Timmins (softwood sawmill), Rosko Forestry, Kirkland Lake (conifer sawmill) and Scierie Landrienne, Landrienne, Québec (conifer sawmill). The forests are managed by the Abitibi River Forest Management Inc. under license to the Ontario Ministry of Natural Resources and Forestry. By far the most striking difference is the change in the number of forestry staff within the offices of the Ministry of Natural Resources and Forestry who presently employ four forestry staff in principally an audit/communication role as opposed to over 25 in the early 80s when I wrote this article.

Trent Watershed: From Ruin to Recovery

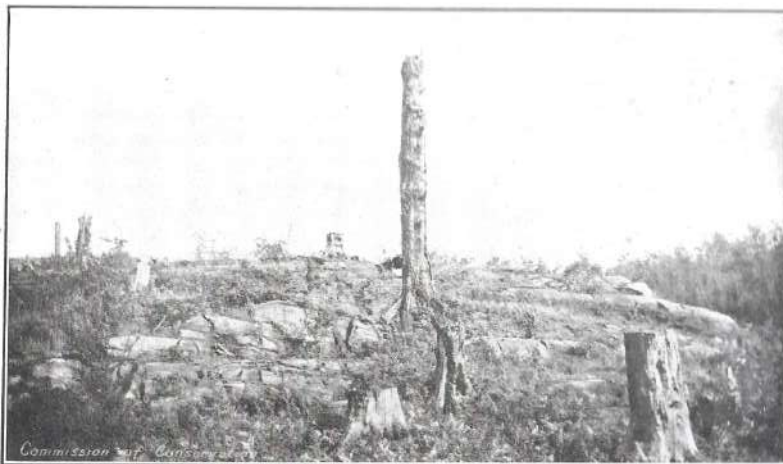
By: John Bacher

The Trent watershed of southern Ontario in the Canadian Shield region experienced a dramatic transition from ruin to recovery. On the eve of the First World War, it was considered "liable to total destruction", with about a fifth of the region being reduced to barren rock from the repeated burns caused by forest fires. [1]

The story of the Trent watershed's success was reasonably representative of many regions in Eastern North America in the transition from what historians describe as the "Gilded Age" to the "Progressive Era." It was similar to the explosive restoration of forest cover on lands which the best science of agronomy would demonstrate were not suited for agriculture. Such lands include wetlands, floodplains, hills, steep slopes, and rocky areas such as the Canadian Shield with thin soils. [2]

The struggle to restore the Trent Watershed, like similar conflicts throughout Eastern North America was full of controversy, setbacks, and debate. It was similar to contemporary controversies on the issue of climate change, where denial of basic science is at the heart of debate. Debates were intense

over issues such as if white pine trees could regenerate after logging, if forest cover was related to the stream flow and if it was economically sensible to farm marginal agricultural lands. In Canada the cause of science lead reform was championed by the Commission of Conservation which sponsored the Trent watershed study. Although strongly supported by Prime Ministers Sir Wilfred Laurier, and Sir William Borden, the Commission was abolished through federal legislation in 1919.



One of the most notable signs of this intense science debate and denial was the exile from any advisory role with the provincial government of the University of Toronto Forestry Professor, the first graduate of a Canadian forestry educational program, James White. He was one of the authors of the Commission of Conservation's Trent Watershed Survey, which provided the basis for the watershed's rehabilitation. White's fate was similar to that of the Wisconsin Chief Forester, Edward Merriam Griffith, who was driven out of the state for his commitment to scientific forestry principles. [3]



FORMER PINERIES
These areas once supported sixty merchantable trees per acre. Now no seed trees remain to re-establish another pinery. 150,000 acres in this condition in the Trent Watershed

What sparked the effort to rehabilitate the Trent watershed was the threat

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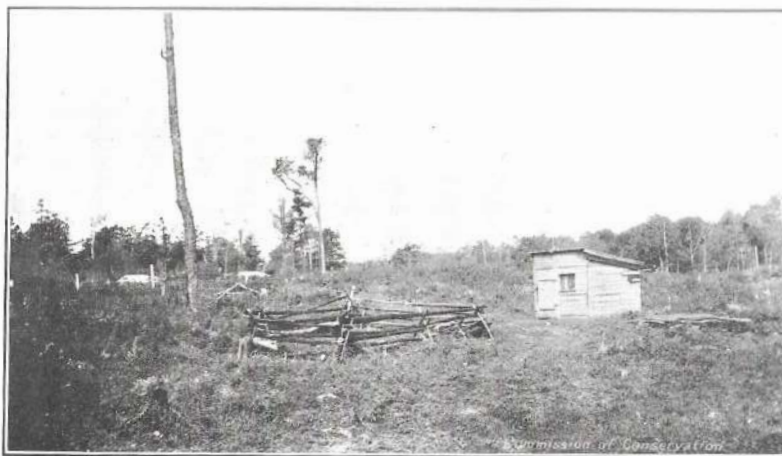
posed to the Trent Canal and the industries it supported. One of the authors of the Trent survey, the then Dean of Forestry at the University of Toronto, B. E. Fernow, summed up the crisis it faced. Fernow warned that deforestation in the Trent watershed had created a situation that was "a menace to the industries which have developed" that "utilize the water powers of the watershed." [4]

The great investment of the federal government in building the Trent Canal appeared to be on the verge of becoming worthless, as its watershed was rapidly degrading to a barren rock situation. The crisis created broad support for the Trent watershed survey among business and political leaders. One was the Member of Parliament, (MP) for the region, John Hampton Burnham. His father, John Burnham, had earlier served as the MP for Peterborough. [5]

When, in 1913, Fernow took charge of the Trent Survey, he was at the height of a distinguished career which had been instrumental in bringing the profession of Forestry to North America. Born in Germany where he had served as a forester, he emigrated to the United States so his marriage, and later, family, could develop tranquilly without the hostility of his relatives. His marriage to the former Olivia Reynolds was quite successful producing five children. The couple saw the emerging forestry profession on the North American continent become their extended family. Fernow consciously sought to give the forests of North America a similar level of professional protection by trained foresters as those of Europe.[6]

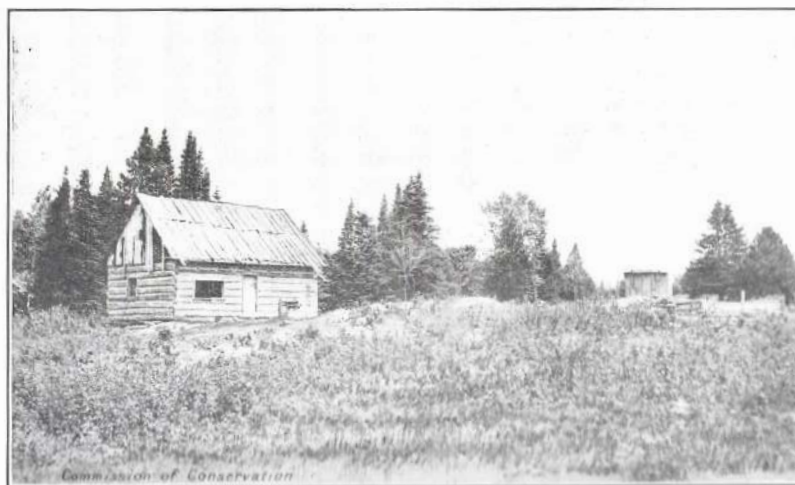
Before undertaking the Trent Survey Fernow had worked on forest studies of other regions for the Commission of Conservation, in partnership with his co-authors, James White, and Clifford Howe. Together they undertook studies of the forests of New Brunswick and Nova Scotia. In these earlier studies the authors did not give any indication of who among them wrote the various passages. The text in the Trent Watershed survey, however, gives some author guides. Fernow wrote the passages about economics, Howe those on ecology, while White was the watershed's social worker. White had earlier seen poverty traps on poor soil not suited for farming in the Maritimes. Here farms had been abandoned over the past half century on a massive scale through a bitter experience of economic reality.

Howe is a sadly forgotten figure in the remarkable ecological restoration of Eastern North America. He was one of the first on the continent to obtain a PhD in ecology. After graduating with his doctorate from the University of Chicago in 1898, Howe became an



THE BEGINNING

With the exception of patches containing a few square feet, there is, on this prospective farm, no soil that approaches a loam in texture. It is mostly gravel and sand



THE END

One of the many abandoned farms in the Trent Watershed. The amount of human energy expended in attempting to make a living from such areas has been, and still is enormous

(Continued on page 14)

(Continued from page 13)

instructor at the first forestry school in North America. This was founded by a German forester, Carl Schenck, on the estate of John Vanderbilt in Biltmore, North Carolina. His role as Schenck's assistant helped him understand the basics of forestry. The school produced heroic graduates such as the savior of Wisconsin, Edward Merriam Griffith. [7]

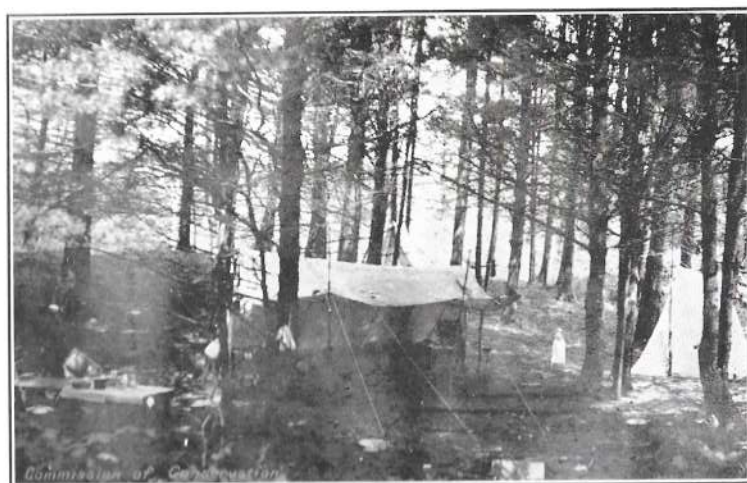
Fernow found the worst consequence of deforestation in the Trent watershed to be the creation of what he found were "nearly 150,000 acres of ...desert". These barren rocky lands were found in the Townships of Methuen, Anstruther and Burleigh. Additional barrens in a menacing "beginning" condition were found sprinkled throughout the watershed. [8]

White, Howe and Fernow stressed how the rocks of the Canadian Shield produced thin soils vulnerable to erosion. Their study of the Trent photographed a natural Canadian Shield beautiful rock barren, contrasting it with the ugly scars of human intervention after 1836.

Poetically White, Fernow and Howe borrowed from the Greek language to describe the Canadian Shield. It is more commonly described as the oldest Pre Cambrian rock formation. They used the Greek word "Archean", to describe these ancient rocks. These they warned "were not easily disintegrated." [9]



Fernow found that the thin soils which formerly supported a "magnificent pinery", dominated by tall white pines, were vulnerable to erosion. This had been induced by excessively intense logging, which removed forest canopy, and agriculture. The thin soils over the Archean rocks were "easily washed into streams". This was triggered by even relatively low impact agricultural techniques such as what agronomists termed "rough pasture." Worse consequences came from more intensive cropping. Erosion had turned most of the watershed into a bleak "irredeemable waste." [10]



WHERE SEED TREES WERE LEFT AFTER CUTTING AND WHERE NOT TOO SEVERELY BURNED, THE PINE IS REPRODUCING ITSELF IN COMMERCIAL QUANTITIES
This is taking place on 75,000 acres in the Trent Watershed

In the more impacted lower watershed of the Trent, Fernow found that "Less than 90,000 acres", of a once well forested region of 1,171,624 acres, had become useless for commercial timber. This area of what he termed "moderately culled" lands (lightly logged), amounted to less than 10 per cent of the lower watershed. On these selectively logged lands enough pine trees had been left behind to permit natural regeneration sufficient to allow logging on a commercial scale. [11]

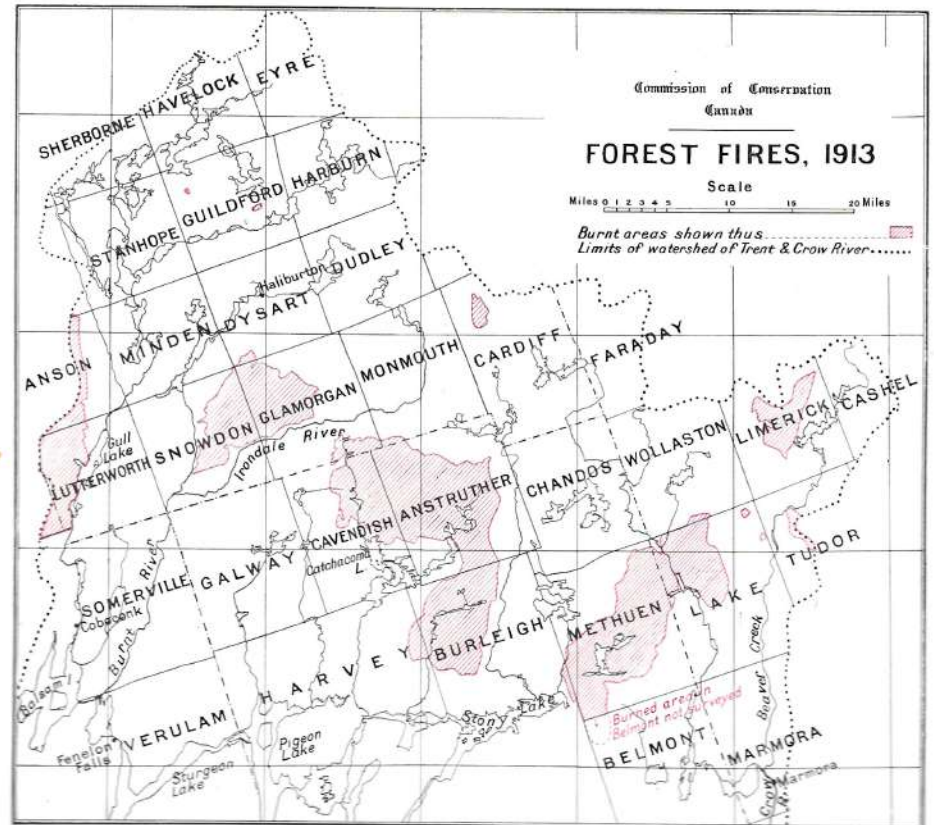
Fernow included in the report a photograph to show a surviving commercial pinery. Its caption explained how the forest sustainably flourished "Where seed trees were left after cutting

(Continued on page 15)

(Continued from page 14)

and where not severely burned the pine is reproducing in commercial quantities." These timber rich pine forests were rare refuges in a landscape devastated by the massive forest fires, often repeated, and overly intensive cutting. [12]

Fernow summarized the economic ruin that had been created through Euro-Canadian exploitation unleashed in only 77 years. During this time a situation had been created where "soil becomes worked out, the surface wears away, the rocks are exposed, and the people are left destitute and miserable." Some farmers in the region had been lured there by the wiles of logging leaseholders after they had removed the best timber. [13]



Fernow found some instances where leaseholders discouraged tourism. He found they encouraged "location lots by settlers in order to escape government dues under the license system." This discouraged tourism in Glamorgan Township. Although the township "abounded" in lakes, and was accessible by rail, no tourist or summer hotel business had emerged here. [14]

Howe made excellent use of his doctorate in ecology to outline the ecological degradation in the region since 1836. Howe stressed the dangers he described were getting worse since his survey field work had been completed. This was because, "Extensive fires during the summer of 1913 have altered the conditions on about 175,000 acres." [15]

Howe found that repeated burns were a threat to a fragile poplar-birch forest which had so far escaped being degraded to barrens. Its vulnerability was demonstrated by photos that showed it consisted of "scraggly trees growing up through the boulders." [16]

Howe demonstrated how fire was turning the Trent watershed into a rock desert. He found that "the destructive influence of man's fires" would "if repeated in the same area, eventually kill all seed trees of the original species." Over time repeated burns had an even more sinister impact. They would, he explained, have "disastrous effects on the humus content of the soil." [17]

Howe showed how the haphazard system of fire prevention in Ontario encouraged repeated soil destroying burns. The system of fire patrols and suppression then in effect he found, created a situation where "cut-over lands are entirely neglected." In the regime of the determined foe of professional foresters, Aubrey White, (the powerful Deputy Minister of the Department of Lands and Forests) it was common to hear people remark "that no particular damage was done as the fire ran over cut-over lands." [18]

Research into barren lands confirmed Howe's view that they were degraded into this state by repeated burns destroying the humus content of the soils. This situation was evident in the biggest concentration of barren lands "some 9,400 acres" found in Methuen Township. Here he found soils "in the last stages of decay, frequently crumbling", when run through his fingers. Stripped of the

(Continued on page 16)

organic elements of humus, they had been degraded into "gravel and coarse sand." [19]

In the barrens of Methuen Howe found a grove of trees that revealed the tragic history of the Trent watershed since 1836. He wrote that, "The fire scars on these trees tell the story of the barrens." A scarred giant pine gave dramatic testimony of the curse of rapid, human induced burns. This survivor had been burnt "in 1836, 1853, 1865, 1874, 1882, 1897, and in 1911." The fire scarred tree was in a grove dominated by giant pines 98 years old. He concluded that they had been burnt by "fire at the rate of every 14 years." Howe found evidence of additional fires which destroyed undergrowth, which would have contained pine seedlings, but were "too small to injure the larger tree." [20]

White's role was shaped by long traditions of European social forestry. This he would have learnt as a student under Fernow's instruction at the University of Toronto and through the pervasive influence of Gifford Pinchot on forestry in North America. Pinchot studied forestry in France, where social forestry was championed. Before coming to the Trent watershed, White got a taste of families being trapped in poverty on lands better suited for trees than farms, in his survey of the Maritimes.

What made poverty in the Trent Watershed quite personal for White was knowing a family personally affected by it. This came from a fellow Forestry student at the University of Toronto, Ernest Callaway Manning.

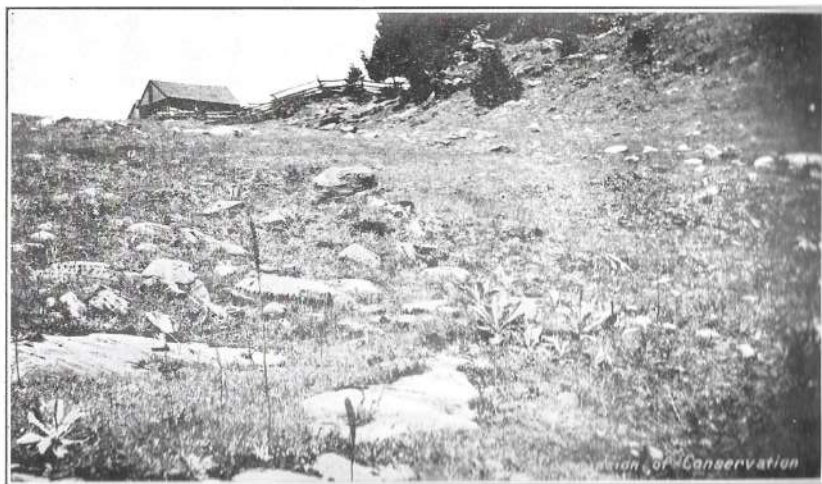


FIELD STREWN WITH LIMESTONE BOULDERS: GOOD PASTURAGE, HOWEVER, BETWEEN THE BOULDERS

Manning had one of the most distinguished careers of the Forestry Faculty's graduates, while serving as the Chief Forester of British Columbia. While Chief Forester Manning became the brains behind the environmental restoration and public recreational efforts of the provincial government of Premier Ernest Patullo. It consciously sought to imitate the New Deal Policies of the American President, Franklin Roosevelt. Manning became a popular hero in the province, and a Provincial Park is named in his honor. [21]

Had Ernest Manning's mother, Helen Brown Manning read the Trent watershed report, she would have heartily agreed with its conclusions. The dismal prospects for a future in the Selwyn area near Peterborough caused her to move to Toronto with her three sons. Here she ran a boarding house. This left her husband, Wellington Manning, to run the Selwyn farm on his own. [21]

In his earlier Maritime studies White did not quote farmers who lived in the bleak poverty traps he described. In contrast, in the Trent Survey the voice of Wellington Manning can be clearly



POOR PASTURAGE: MAXIMUM DEPTH OF SOIL LESS THAN TWELVE INCHES

(Continued on page 17)

heard. This pain can be heard in the quote where White is told "this country was never meant to be farmed", and that he "would get out if he could." [22]

Wellington Manning's cry of despair was echoed by farmers throughout the Trent watershed. Interviews with them brought this out repeatedly. White found that, "There was always the same explanation-inability to make a living." [23]

Touring around the watershed, White saw a bleak pattern among farms, that it was obvious had been established from profits from timber sales from the towering Great Pines. Farms vanished along with the once grand trees. [24]

White witnessed the decline of agriculture vividly in patterns on the landscape. He wrote how, "Time and time again, following a spur road, it would be found ending in a remote pocket of soil, which had been ferreted out as good land, but which had after all, been finally abandoned. Along the old colonization highway, one finds long stretches...of no signs of any occupation beyond the mute testimony of piles of stone or an occasional ornamental fruit tree." White discovered "instances were met everywhere where the owner had simply left his farm, often with buildings above average unable to find a purchaser." [25]

One of the most telling photographs in the Trent survey was an example of what agronomists called rough pasture. Here the photo caption reads, "field strewn with Limestone boulders. Good pasturage however, between the boulders." [25]

White urged that except for a few river valleys with deep soil, the agricultural lands of the Trent watershed should revert to forests. He recommended that the region's economy should be based on tourism. The surviving poplar-birch forests were quite fragile for economic development purposes. It would take a long time before they could be safely harvested on a commercial basis. Logging on such a scale would damage soils for a half century.

White found that "tourist traffic is underdeveloped." This was despite the great potential. The region was blessed with "accessible ...lakes dotted with islands." He found, "The altitude throughout the region precludes any hot weather in the summer and the nights are always cool." The area was "an inexpensive recreation ground for the great mass of urban citizens which have but a short vacation, of which to tone up." [26]

White found that some pockets of recreational tourism had emerged. Hotels for this trade were flourishing in Mt. Julian, Burleigh Falls, Bobcaygen, Fenlon Falls and Rosedale. White urged that the large block of crown land in the northern watershed be reserved for inaccessible, canoe based recreational tourism. This was done in 1929 through the Kawartha Provincial Forest, which later became Kawartha Provincial Park. [27]

Four years after the publication of the Trent Watershed Survey, the critical step towards the cure for the ills it documented took place when the Ontario Forest Fire Prevention Act of 1917 was passed by the provincial legislature. This took fire protection out of the control of a patch work system of a combination of workers appointed by timber leaseholders and politically appointed Crown Timber Agents. This was replaced by a workforce under the direction of district professional foresters, under the supervision of the Chief Forester of Ontario, Edmund Zavitz. [28]

Although the administration of fire control was changed in 1917, what would prove critical to the healing of the Trent watershed did not emerge until 1922. This five-year delay was in keeping with the principles of social forestry. Foresters have always made the protection of human life their highest priority in developing strategies to combat forest fires. The Trent watershed was far less dangerous than the most fire prone area of Ontario, the Clay Belt region of Northeastern Ontario.

While the Trent Survey spoke volumes about the danger of fires there was no account of any human settlements being burned, or people being killed. The worst accounts were of fires that lightly signed barns in remote areas. Unlike the towns of the Clay Belt, such as Haileybury, which was largely

incinerated in 1922, communities such as Selwyn and Peterborough were not threatened. [29]

The critical step in the recovery of the Trent watershed took place in 1922. Then the fire control administration of the Department of Lands and Forests was changed to create a Trent District, under the control of a professional forester. Howe, who died in 1941, was, through a 1939 symposium of foresters, able to comment on the significance of this change. He observed how after this reorganization, "a haphazard forest patrol system was superseded by a business organization of keenly interested and especially trained men in charge of highly mechanized systems of detection and suppression, to be followed later by an efficient prevention system through public education." [30]

The skilled workforce described by Howe was outlined by the District Forester H.W. Crosbie at the 1939 Trent Symposium. He observed how before 1922 fire fighting forces "consisted of casual unskilled labor." These were replaced by professions "along lines of individualization and specialization of function to detection and fire suppression." As a result, a "staff of experts" for the Trent District had been assembled. This team Crosbie found had "knowledge of such services and arts of telephony, meteorology, and surveying down to the grade of trained and resourceful woodmen." This team also included "dispatchers, boatmen, car operators, telephone linemen, tower observers and smoke chasers in addition to clerks." [31]

The fire fighting force established after 1922 was quite formidable. The staff, under the control of the District Forester, during the fire season was composed of fifty men, 12 of whom were permanently employed. When fire outbreaks did take place, this core was supplemented by what Crosbie called "extra fire fighters, often in the hundreds." In one year, 900 men were quickly mobilized. [32]

Other experts served in areas of public education and enforcement. Crosbie found that they had "the ability to command men and the talent to enforce the laws as well as to enlist the co-operation of the public." This ability was helped by high competence encouraged through "circulars of instruction, detailed instruction as to duties". This combination of scientific knowledge and high morale made employees effective missionaries to the public. He saw the results through such success as "hazard disposal....the removal of inflammable devices-the cause of many forest fires-from areas of fire hazard, and the slash along roads, trails, adjoining railways, sawmills, villages are other places where the risk of fires is great." [33]

After the Trent District was established in 1922, impressive infrastructure to suppress fires was constructed. Some 17 "permanent adequately equipped detection towers" were built. Four hundred miles and seventy miles of telephone lines were laid. Cabin accommodation was built for the ranging staff. Storehouses for equipment were sprinkled through the watershed and divisional headquarters. [34]

In contrast to the devastating losses through fire described in the Trent watershed report, from 1922 to 1930 only 9,300 acres were impacted by fire. All this loss, moreover, was experienced during two very hot and dry summers in succession, in 1929 and 1930. Crosbie found that the trivial losses from fires were now, "considerably below the allowable loss, according to US Forest Service ratings." [35]

In other parts of Ontario fire prevention administration was briefly disrupted by firings of District Foresters in 1934. This was instigated by the briefly serving Deputy Minister of Forests, Frederick Noad, with the support of Crown Timber agents. Such disruption did not take place in the Trent District. The backlash caused by Noad's activities in the rest of Ontario served to consolidate control of foresters over forest administration in the Trent District.

In 1938 an important backlash against Noad's antics in the provincial government consolidated the power of foresters in the Department of Lands and Forests. Previously District Foresters were only charged with fire prevention and suppression. Their role expanded to include timber management.

As Crosbie explained to the Trent Symposium, "The Crown Timber Agent was appointed as the Assistant Forester and put under the control of the District Forester." (a university educated, professional forester). The control of the District Forester was consolidated through another move at the same time. The scalers, who determined government fees for logging, had been in the past supervised by Crown Timber Agents. They were found to be too old to carry on their duties and were "retired from service." [36]

In 1926 another step in implementing the Trent Watershed survey recommendations was realized when the Kawartha Lakes Provincial Forest was created. It was comprised largely of lapsed crown owned timber berths. This area amounted to 180,000 acres. [37]

The additional reforms Crosbie urged in the Trent Symposium would be eventually secured through the 1946 legislation which secured both the *Trees Act* and the *Conservation Authorities Act*. Howe urged reforestation of barren lands through what he termed "seed spotting". More assertive reforestation would be carried out in the Trent watershed after the passage of the *Conservation Authorities Act*.

At the symposium, forester I.C. Maritt detailed problems caused by clear cutting on private lands in the recovering poplar-birch forest. He told the symposium that in such cuttings, which were undertaken to obtain fuel wood, "every tree is cut" for a mere "stick of wood." As a result of removing the smallest trees he found "there will be of little value in areas so treated for years to come." He urged that the province introduce legislation to give municipalities the power to regulate tree cutting on private lands. Through such legislation he believed that by-laws could be developed that would prohibit cutting of young trees smaller than a diameter limit of eight inches. [38]

The reforms urged at the Trent symposium got a boost with the publication four years later by a federal-provincial advisory committee on Post War Reconstruction, on the Ganaraska watershed, written by a long-time assistant of Edmund Zavitz, Herbert Arthur Richardson. Three years later, its favorable publicity led to two important new provincial acts passed in 1946. One was the *Conservation Authorities Act*, which did as intended and boosted reforestation of barren lands. The other was the *Trees Act* which, for the first time, gave municipalities the power to restrict tree cutting on private lands. [39]

The entire watershed of the Trent Canal was blanketed by three Conservation Authorities: Kawartha Lakes, Lower Trent and Otonabee. In addition to reforesting barrens, the authorities boosted tourism through hiking trails, picnic areas, campgrounds, and museums. A similar boost was given when the Trent Canal's administration was transferred to the historic sites branch of Parks Canada. The remarkable success of a regional economy dominated by recreational tourism would be further encouraged if it were more widely appreciated that it fulfills a visionary blueprint for sustainable economic development developed at the height of the Progressive era.

Editor's Note: All photos accompanying this article are from: B.E. (Benard Eduard) Fernow, Clifford Durand Howe, James Herbert White, "Trent Watershed Survey", Commission of Conservation, Ottawa, 1913.

Endnotes

- 1) B.E. (Benard Eduard) Fernow, Clifford Durand Howe, James Herbert White, "Trent Watershed Survey", Commission of Conservation, Ottawa, 1913, p. 3.
- 2) A vivid example of the challenges of science was the career of the US Forest Service's Director of Research Raphael Zon, who studied forestry under Fernow at Cornell University. To demonstrate that forest cover protected watersheds, he conducted experiments in clearing lands on US Forest Service properties. See Wikipedia entry on Raphael Zon. This effectively challenged scientific sceptics who opposed reforestation and who sought to sell poor quality farmland to naïve farmers who would soon be trapped in poverty.
- 3) F. G. Wilson, "E.M. Griffith and the Early Story of Wisconsin Forestry", Wisconsin Department of Natural Resources, 1982. *passim*. Wilson served as Griffith's assistant and after he was driven out, patiently worked to implement his reforms over three decades of public service. The trauma he experienced from the efforts of land companies seeking to promote farming on marginal land was similar to the impact on James White from the northern Ontario economic interests championed by the foe of foresters, Frederick Noad.

(Continued on page 20)

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4) Fernow, White and Howe, loc.cit., pp. 1-3.

5) Ibid. 3-24.

6) Andrew Denny Rodgers, "Bernard Eduard Fernow: A Study in North American Forestry", (Princeton: Princeton University Press, 1950) passim; The way that Fernow and his wife Olivia had the emerging forestry faculty be an extended family is vividly seen in the Sunday evenings they held for students of the Forestry Faculty at the University of Toronto. Olivia would prepare a meal and her husband played the piano.

7) The confusion of C D. Howe, the ecologist, with a politician with a similar name is shown in the Wikipedia article on Carl Schneck. The article's footnote on Howe the ecologist wrongly provides a link to the biography of the politician. The New York Times obituary article on Howe the ecologist, published in 1941, is available online. Howe replaced Fernow as the Dean of the Forestry Faculty in 1919 upon Fernow's retirement from ill health, and continued for 22 years until his death in 1941.

8) Fernow, White and Howe, loc.cit. pp.3-34.

9) Ibid.

10) Ibid.

11) Ibid.

12) Ibid.

13) Ibid.

14) Ibid.

15) Ibid, pp. 91-101.

16) Ibid.

17) Ibid.

18) Ibid. From 1908 until his death in 1915 Aubrey White was a determined foe of foresters, sparked by their defeat of his attempts to have logging in an old growth grove in Rondeau Provincial Park.

19) Ibid.

20) Ibid.

21) Lorne Hammond, entry on Ernest Calloway Manning, in "Biographical Dictionary of American and Canadian Naturalists and Environmentalists", in Keir B. Sterling and all edited. (Westport: Greenwood Press, 1997), p. 142. The naming of a Provincial Park after Manning came after an outpouring of admiration for him after his death in a plane crash, which came as part of his wartime work in timber administration.

22) Fernow, White and Howe, loc.cit., pp.91-101

23) Ibid.

24) Ibid.

25) Ibid.

26) H.W. Crosbie, "Progress and Problems in the Trent District" Forestry Chronicle, June 1939, Vol. XV.

27) Ibid.

28) Ibid.

28) Ibid.

29) Ibid.

30) Ibid.

31) Ibid.

32) Ibid.

33) Ibid.

34) Ibid.

35) Ibid. That the US Forest Service had a concept of "allowable loss" to fire damage is illustrative of the need for more research into the history of fire suppression, which was never, as some contemporary critics have suggested, total. In Ontario fire was understood as essential for the regeneration of jack pine even at the height of fire suppression.

36) Ibid.

37) Ibid.

38) Ibid.

39) A.H. Richardson, "Conservation for the People", (Toronto: University of Toronto Press, 1974, pp.3-14. A.H. Richardson, "A Report on the Garnaraska Watershed", published jointly by the federal and provincial governments, 1944, pp.1-20. Richardson's 1944 survey sponsored by the Advisory Committee on Reconstruction, chaired by the Principal of McGill University, Cyril James. The work of the James Committee essentially completed the earlier research of the Commission of Conservation. It was abruptly terminated in 1919 by a Prime Minister hostile to its conservationist objectives, Arthur Meighen. The James Committee's creation by Prime Minister William Lyon Mackenzie King was encouraged by his long-time friend, Sir William Mulock, a founder of Men of the Trees. Composed largely of World War One army veterans, it campaigned for the creation of Conservation Authorities and the regulation of tree cutting on private lands.

"A Forestry Program that Cannot be Equalled in Canada"

Kimberly-Clark's Extraordinary Silvicultural Project in Northern Ontario, 1928-1976*

by Mark Kuhlberg

In a nation as wooded as Canada, it is sadly ironic that we know so little about our forest history, and the snippet that we do know is generally filled with misunderstandings and misconceptions. Although much of our country's economic and social backbone was built of forest products, authors have shown surprisingly little interest in writing about these subjects. On the few occasions when they have delved into it, they have been practically universal in denouncing the industry's behaviour, particularly in terms of how it treated the forests upon which it depended. These

authors argue that, for the longest time, industry and government worked in concert to avoid adopting meaningful forest management measures in an effort to maximize profits and economic development. Tellers of this tale rank the pulp and paper industry as the worst offender in this regard, giving nary a thought to sustainability. The motor that turned all these cogs in the forest industry factories, so the story goes, was capitalism and the corporate greed it spawned. Jamie Swift captures the pith of this interpretation when he declares that "industry... has always taken the attitude of cut and get

* This article is dedicated to the late Kent Virgo (1949-2004). He graduated with his Bachelor of Science in Forestry in 1971 and almost immediately began practising his profession on northern Ontario's Clay Belt. After roughly a decade with the Ministry of Natural Resources, he was hired by Spruce Falls Power and Paper Company in Kapuskasing in 1981 (it would be acquired by Tembec in 1991) and spent the rest of his career striving to improve its forest management program. He, and Paul Krabbe, who also worked with Tembec, granted me access to the firm's archival documents back in the mid-1990s. Paul was particularly kind in terms of facilitating my work at the mill, and the materials I reviewed served as the evidentiary basis for this article. I am so grateful to the two of them for all that they did for me. In addition, I would like to thank several experts who reviewed earlier versions of this article, namely Ken Armson, Herb Emery, Malcolm "Mac" Squires and Bill Thornton. Julie Latimer, museum curator extraordinaire in Kapuskasing, and Kevin Delguidice, Planning Superintendent with RYAM, which currently owns the mill in Kapuskasing, were most obliging in helping me obtain the images that accompany this article. Finally, over the years the staff at the Archives of Ontario, University of Toronto Archives, the Iroquois Falls Archives of the former Abitibi-Consolidated Inc., and the late Marc Dube at the former St Marys Paper mill in Sault Ste Marie, provided invaluable assistance by facilitating my research.

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Abstract

This article presents the story of the extraordinary reforestation program that was carried out in Kapuskasing by Kimberly Clark after the Second World War. Most historians have argued that the forest industry was only interested in profits and paid little attention to forest management. Kimberley Clark, however, carried out this project for a number of reasons, including its enlightened corporate culture and, most importantly, because it had secured tenure to its timber. The article highlights how foreign firms are not necessarily a danger to Ontario's forests and underscores those factors that could potentially play a crucial role in tackling the environmental issues we face today.

Résumé: *Cet article présente l'histoire du programme exceptionnel de reboisement effectué à Kapuskasing par Kimberly Clark après la Seconde Guerre mondiale. La plupart des historiens ont soutenu que l'industrie forestière ne s'intéressait qu'aux profits et prêtait peu d'attention à la gestion des forêts. Toutefois, Kimberly Clark a réalisé ce projet pour plusieurs raisons, y compris une culture d'entreprise éclairée, mais surtout parce qu'il avait assuré la tenure du bois. Nous soutiendrons que les entreprises étrangères ne sont pas nécessairement un danger pour les forêts ontariennes, et soulignerons les facteurs qui pourraient jouer un rôle essentiel dans la résolution des problèmes environnementaux auxquels nous sommes confrontés aujourd'hui.*

out. To industry, the wood is simply a supply factor for a distant mill, the corporate profit centre... The future of the forest eight or ten decades down the line simply isn't part of this equation."¹

Considering Ontario's settlement pattern, it is understandable why this standing interpretation of our forest history remained unchallenged for so long. The province has long been the most urbanized in Canada and the overwhelming majority of its residents live in its southern reaches, far from commercial

forestry activities. This isolation tends to cultivate a highly romanticized and unrealistic view of the woods among city-dwellers, whose impression of forestry activities is often created by organizations whose very raison d'être is to battle the loggers and curtail their activities. If the urbanite ever happens to come across a tract of forest that has been harvested, it is frequently experienced ephemerally from the seat of a car speeding along a highway or a jet flying thousands of feet above the ground, perches from which

¹ A.R.M. Lower, *The North American Assault on the Canadian Forest* (Toronto: Ryerson Press, 1938); H.V. Nelles, *The Politics of Development* (Hamden, Connecticut: Archon Book, 1974); R.P. Gillis and T.R. Roach, *Lost Initiatives: Canada's Forest Industries, Forest Policy and Forest Conservation* (New York: Greenwich Press, 1986); D. Mackay, *Heritage Lost: The Crisis in Canada's Forests* (Toronto: Macmillan of Canada Limited, 1985). J. Swift, *Cut and Run: The Assault on Canada's Forests* (Toronto: Between the Lines, 1983), passim and the citation is from 23; R.A. Rajala, *Clearcutting the Pacific Rain Forest: Production, Science and Regulation* (Vancouver: UBC Press, 1998).

the cutover is typically seen as a blight upon the earth.

While there is no disputing that forestry practices have improved dramatically across Canada since the Second World War, telling the story about the forest management program that Kimberly-Clark (KC) conducted in northern Ontario from 1928 until 1976 can help explain much about the dynamics that were at work in our woodlands during these years.² KC, through its subsidiary, Spruce Falls Power and Paper Company, owned and operated a large pulp and paper enterprise in Kapuskasing, and it initiated and paid for a comprehensive suite of silvicultural activities (silviculture is the science of raising tree crops). It did so at a time when the Ontario government, which owned nearly all the forests upon which Spruce Falls depended, did practically nothing to manage them.

Recounting this story from the last century is timely because it sheds light on several issues that are prevalent in our contemporary world. KC had been established in 1872 in Neenah, Wisconsin, and by the time it began building its enterprise in Kapuskasing after the First World War, it was well on its way to becoming a behemoth in the American pulp and paper industry. As a result, KC's

sustained and significant investment in practices such as growing seedlings and planting them in the remote woods of northern Ontario undermines the view that corporations are the enemy of sound forest stewardship. Similarly, the firm's conduct calls into question the assumption that only domestic firms can be trusted to operate as responsible guardians of the environment in general and woodlands in particular. Furthermore, KC infused its silvicultural work with a strong dose of ecological sensitivity, a fact that should help correct one of the most prominent myths about industrial forestry.

Ultimately several factors explain KC's behaviour. Foremost among them was the security of tenure that Spruce Falls enjoyed to the timberlands it leased from the government. It stood alone in this regard among all the major pulp and paper makers in Ontario even though they had long sought perpetual and practically irrevocable access to a sufficiently large tract of timberlands both to support their mills' operations and to make it worthwhile to re-invest profits in forestry measures. As a veteran timber operator succinctly put it in the mid-1940s, "nobody wants to go farming unless they can harvest their crop."³ Second, Spruce

² Only a handful of authors mention KC's mill project in Kapuskasing and even fewer note its forestry program: S.E. Tiffet et al., *The Trust: The Private and Powerful Family Behind the New York Times* (New York: Little, Brown and Co., 1999), 140-41, 157, 320, 329 and 359; Thomas Heinrich and Bob Batchelor, *Kotex, Kleenex, Huggies: Kimberly-Clark and the Consumer Revolution in American Business* (Columbus, OH: Ohio State University Press, 2004); Mackay, *Heritage Lost*, 120-21; K.A. Armson et al., "History of Reforestation in Ontario," in R.G. Wagner and S.J. Colombo, *Regenerating the Canadian Forest: Principles and Practice for Ontario* (Markham, ON: Fitzhenry & Whiteside Limited, 2001), 11.

³ Archives of Ontario [AO], RG18-125, Box 3, File—Public Hearings held... 19 November - 3 December 1946, [hereafter all archival references will be referenced as fond, box, file], 17.

Falls benefited from KC's enlightened corporate culture, which was built on an unrivalled commitment to research and development in all realms of its activities.⁴ Third, Spruce Falls' woodlands were overseen by a coterie of dynamic foresters who won management over to their cause. The final reason is related to the first, namely the firm's constructive and favourable relationship with the landowner (i.e., the Ontario government). Ultimately, Spruce Falls carried out its extraordinary forestry program during this period for many reasons, and explaining them both enhances our understanding of our forest history and provides valuable insight into the preconditions that could play a crucial role in tackling the daunting environmental issues we face today.

The setting for the story is northern Ontario's Great Clay Belt. It is a relatively flat, amoeba-shaped swath of land consisting mostly of heavy clay soils, and it stretches across northern Ontario and Quebec above the height of land for a few hundred kilometres in each province. The terrain's poor drainage results in it being dominated by extensive swamps between the large rivers that bisect the area.⁵

The Boreal Forest Region gives the clay belt its defining flora, and fire has always played the central role in creating this landscape. Long before humans

began decrying the forest companies for allegedly aiming to re-establish monoculture tree crops in cutovers, Mother Nature had perfected this practice. The region's harsh conditions limited the types of trees that could survive there to about a half dozen species, and all of them have developed strategies for both surviving and reproducing after the periodic fires (i.e. depending upon local conditions, they occur on average every 60 to 135 years). On the clay belt, black spruce was unrivalled at doing so, and it was thus predominant. Intense fires killed the seeds and roots of competing plants in the humus (i.e., the thick mat of organic matter that carpeted the forest floor) and also reduced it to a fine textured material in close contact with the underlying soil (i.e., it remained moist). Fire thus destroyed all the existing and potential growth that would otherwise compete with spruce trees and created an ideal, untrammelled seedbed for their offspring. Their cones grew high up near their crowns and were serotinous; they needed fire's heat to open them. The pre-industrial boreal forest was thus dominated by thick swaths of black spruce trees of the same age that stretched as far as the eye could see. When less intense fires burned in the clay belt's boreal forest but did not destroy the species that competed with spruce, the result was mixed stands of conifers and deciduous trees on the region's better drained, up-

⁴ Heinrich, *Kotex*, passim.

⁵ Spruce Falls Inc. Archives [SFIA], 1930-1980—Miscellaneous Forestry Reports [1930-1980], "[draft] Management Plan for the Ontario Limits and Freehold of the Spruce Falls Power and Paper Company, Limited [SFPP]," 1947.

land sites.⁶

Although the town of Kapuskasing has a relatively short history, humans have been in the area for at least several hundred years. Long before the arrival of the Euro-Canadians, the Anishinaabe fished in, trapped and camped along, and travelled on the Kapuskasing River while living their semi-sedentary existence. During the colonial period, Indigenous and non-Indigenous fur traders alike used the waterway to access northern posts. By the turn of the twentieth century, the Ontario government was portraying the Great Clay Belt as Canada's next breadbasket, and spent millions of dollars trying to draw settlers to the area. The construction of railways rendered the area far easier to access, and the National Transcontinental was built across the clay belt in the years before the First World War. The site at which it crossed the Kapuskasing River was originally named McPherson and rechristened Kapuskasing in 1917.⁷

Enlightened observers quickly realized that the only crop that would sustain a prosperous local community would be arboreal in nature. In the early 1900s, eastern Canada emerged as the ideal location in North America in which to make newsprint because the region was endowed with prodigious supplies of the

raw materials needed to make it, namely black spruce, clean water, and waterfalls whose hydraulic potential could be tapped. In fact, soon after the railways opened Ontario's Great Clay Belt to development, two mills were built just east of Kapuskasing. Over the course of 1916-19, a consortium of Americans endeavoured to build a pulp and paper mill in "Kap," but the Ontario government's decision to give it tenuous tenure to the local pulpwood and waterpower resources delayed its project.⁸

Kimberly-Clark Corporation (KC) acquired the pulpwood and hydro power contracts in 1919; almost immediately it became the Ontario government's most favoured operating pulp and paper maker, and arguably for good reason. KC was one of the largest and most progressive firms in the American industry. During the Great War, for example, it had developed a process for making "cellucotton" from spruce wood pulp as a substitute for cotton-based surgical dressings. When the conflict ended, it converted cellucotton into a line of new consumer nondurables—such as feminine napkins—that were far more profitable than traditional pulp and paper products. In dire need of acquiring a dependable, long-term supply of high quality pulp, KC eagerly

⁶ *Ibid.*; S.J. Pyne, *Awful Splendour: A Fire History of Canada* (Vancouver: UBC Press, 2007), 21-31; J. Beverly, and D.L. Martel, "Characterizing Extreme Fire and Weather Events in the Boreal Shield Ecozone of Ontario," *Agricultural and Forest Meteorology*, 133:1-4 (2005), 5-16.

⁷ A.J. Ray, *Indians in the Fur Trade: Their Role as Trappers, Hunters, and Middlemen in the Lands Southwest of Hudson Bay, 1660-1870* (Toronto: UTP, 1974); SFIA, 1930-1980, E. Bonner, February 1965, "History of the Woodlands—Spruce Falls Power and Paper Company, Limited, Kapuskasing."

⁸ M. Kuhlberg, *In the Power of the Government: The Rise and Fall of Newsprint in Ontario, 1894-1932* (Toronto: UTP, 2015), ch. 4.

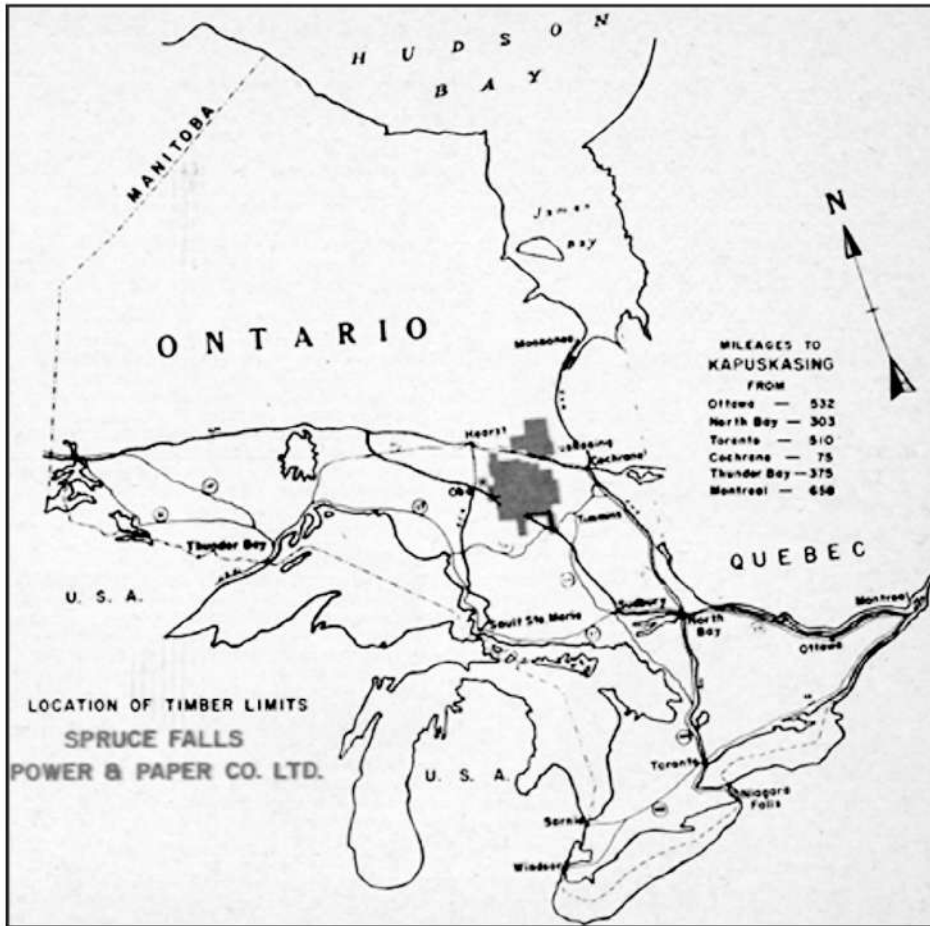


Image 1: Map of Spruce Falls Power and Paper Company's Timber Limits in Northeastern Ontario. (Spruce Falls Review, 1971 and Courtesy of Rayonier Advanced Materials, Kapuskasing).

panies that built mills in the region during this period. Thereafter, the Ontario government was a full-fledged partner in this venture, which explains why the provincial politicians gave KC highly favourable leases in the early 1920s to the timber and hydraulic

embraced the chance to build a mill in Kapuskasing.⁹ For its part, the Ontario government desperately needed a pulp and paper maker to construct a plant in Kapuskasing in order to create a market for the spruce timber that the settlers, whom the politicians had enticed to the area, cleared from their lots as they sought to eke out an existence in the hinterland. To facilitate this enterprise, the provincial government even agreed to pay for constructing the new community's infrastructure, a privilege the politicians did not afford either of the two other com-

resources that it needed to support the 150-ton sulphite pulp mill the company built in Kap.¹⁰

Within short order, KC carried out a plan to expand its operations in Kapuskasing dramatically, and the Ontario government happily facilitated its designs. In 1926, *The New York Times* entered into a partnership with KC to build a massive new newsprint mill in the town and expand its existing pulp mill; they incorporated the Spruce Falls Power and Paper Company to carry out the venture.¹¹ To support the undertaking, over

⁹ Heinrich, *Kotex*, ch. 2.

¹⁰ Kuhlberg, *In the Power*, ch. 9.

¹¹ In 1920, KC had incorporated the Spruce Falls Company Limited, and transferred to it all the pulpwood and water power leases KC had acquired in Kapuskasing. After creating the new firm six years later, KC transferred all the capital stock in the Spruce Falls Company to the new enterprise.

the course of 1923-26 the Ontario government granted the company practically all the local supplies of pulpwood and water powers even though a neighbouring mill desperately needed them (Image 1).¹²

The Ontario government's treatment of Spruce Falls was nonpareil among its competitors in the province. At the time, industry officials desperately sought to acquire what they defined as a perpetual supply of pulpwood (i.e., 2,250,000 cords of pulpwood per every 100 tons of newsprint mill capacity) and secure tenure to their timber. Among all the operating mills in Ontario, the provincial government granted only Spruce Falls these generous terms, and then some. Spruce Falls' contract to its pulpwood guaranteed it unlimited renewals of the agreement (other companies' agreements were limited to one 21-year term with either no, or one 21-year, renewal) and it included an extraordinary clause. The latter provided, as one insider reported in a telegram at the time, "for right by company to receive timber from government lands in event area now set aside insufficient... [Spruce Falls was] ... jubilant result negotiations and consider contract best ever issued by province." It most definitely was.¹³

These factors gave Spruce Falls an unshakeable legal foundation for its enterprise, and its owners' exceptional corporate outlook inclined them to capi-

talize fully on this opportunity. Already in the early 1900s, for instance, KC had begun purchasing woodlands in Michigan and Minnesota and applying the latest forestry principles to managing them. Similarly, the owners of *The Times* agreed to become a partner in the project in Kapuskasing on the premise that the plant's woodlands would be managed sustainably. It was thus predictable that, in mid-1928, just as Spruce Falls' new mill began shipping its first rolls of newsprint, the company established its forestry department.¹⁴

Critics could hardly have been faulted for dismissing this move as nothing but a public relations stunt, for that is largely how the Ontario government had approached forestry both prior to this time and for long after it. Since the late 1800s, a steady stream of public and private officials had called upon the provincial government to manage prudently the Crown woodlands that it owned, but for at least a few decades it had done virtually nothing in this regard. Beginning in the mid-1910s, however, it hired a sizeable corps of foresters, established a rudimentary forest fire fighting system, enacted laws that called for better forest management, and funded limited research into how to achieve this aim. But when the studies indicated that the most valuable commercial species were not regenerating after harvesting, the results were

¹² Heinrich, *Kotex*, chs. 2-3; Kuhlberg, *In the Power*, 238-47.

¹³ *Ibid.*

¹⁴ R. Spector, *Shared Values: A History of Kimberly-Clark* (Greenwich Publishing Group, Inc.: Lyme, Conn., 1997), 44; New York Public Library Archives, A.H. Sulzberger Papers, 247, 4, 29 September 1922, A.S. Ochs Jr. to A.S. Ochs Sr.

buried. All the while, the government kept reassuring the electorate that it was “the trustee and manager of the forests... owned by the people of Ontario” and was doing all it could to carry out its fiduciary duty in managing them.¹⁵

In sharp contrast, Spruce Falls’ actions demonstrated its fervent commitment to acting as a prudent steward of the woodlands it leased from the government. From the outset, it decreed that professional foresters would direct its wood procurement program, and doing so demonstrated that it fully understood what silviculture entailed. Although the public then and now often associates it strictly with treeplanting, it encompasses all aspects of the woodlands operations, including planning and conducting the harvest. Furthermore, Spruce Falls poached two budding superstars from the Laurentide Paper Company in Quebec, Canada’s leader in forest management, to head up its silvicultural program. Laurentide had launched a major reforestation program in the early 1900s, and by the early 1920s Robert “Bob” Lyons was running it and Gordon G. Cosens was his assistant. Lyons and Cosens also managed Laurentide’s logging operations and, more importantly, they increased within short order its annual

treeplant to over 3,000,000 seedlings. When Spruce Falls hired Lyons to be its first Woodlands Manager and Cosens his assistant in 1928, they represented the first foresters that KC had hired within its entire organization. They both went on to enjoy lengthy careers with the company and rise to near the top of KC’s corporate ladder.¹⁶

Together, Lyons and Cosens faced a formidable, immediate task, namely providing Spruce Falls with enough pulpwood to supply its vast new industrial enterprise, but they also recognized the pressing need to lay the administrative and empirical foundation for their future forestry work. To realize the latter aim, they hired new field and office staff and directed them to abide by strict protocols for calculating, gathering and organizing data regarding all aspects—particularly the cost—of administering the woodlands.¹⁷

Lyons and Cosens were acutely aware that these facts and figures would play a critical political role in their campaign. Although KC and *The Times* were philosophically supportive of effectively managing their mill’s woodlands, forestry in North America was still in its infancy. The foresters also realized that they would make mistakes and detractors would cast aspersions on investing

¹⁵ M. Kuhlberg, *One Hundred Rings and Counting: Forestry Education and Forestry in Ontario and Canada, 1907-2007* (Toronto: UTP, 2009); September 1942, “The History and Status of Forestry in Ontario”, *Canadian Geographical Journal*, 34, from which the citation is taken.

¹⁶ University of Toronto Archives [UTA], A2004-0017/10, G.G. Cosens; *ibid.*, /26, R.W. Lyons.

¹⁷ SFIA, 1930-1980, 7 January 1965, E. Bonner to F.N. Wiley; *ibid.*, SFPP, Woodlands Department, Annual Report of the Manager for the Year Ending 30th April, 1928; *ibid.*, Statistics on SFPP Woodlands Department—Wood Cost Statements, 1928-1944; *ibid.*, Miscellaneous Correspondence, 19 October 1931, R.W. Lyons, “Memo to Employees of the Woods Department,” *ibid.*, Timber Limits, R.W. Phipps, “Doomsday Book, 1930-1931.”

in this type of activity. Moreover, they knew that periodically, particularly when times got tough, senior management would look to pare costs. On these occasions, spending precious capital resources in the present on forestry measures that held no hope of producing returns for decades would seem to be an unaffordable luxury. As Lyons recounted in retrospect, he spent forty years “trying to ‘sell’ a forestry policy to company and government officials and to the general public. As in any sales effort, it is necessary to have basic data.” Consequently, the company’s foresters made research a central focus of their work.¹⁸

In doing so, however, they learned some disquieting news. The departure point for their investigations was compiling a comprehensive inventory of their woodlands, one that ultimately took a quarter century to complete. They also sought to determine what happened to the forest after it was harvested. Black spruce was preponderant in the local woodlands, and white spruce was also common, and the firm’s mills required a diet that was composed almost entirely of these two species. Spruce Falls thus aimed to foster regeneration of them in its cutovers. And, after conducting several surveys, the company’s foresters learned that the worst sites for growing trees in their forest—the low-lying flats

and sphagnum moss-laden swamps—generally regenerated naturally to a thick crop of black spruce after cutting. This revelation was reassuring on the one hand because these wet, bog-like conditions were prevalent on their timber limits. On the other hand, however, trees did not enjoy robust growth on these sites.¹⁹

More worrisome was the deeply troubling discovery that came out of Spruce Falls’ inaugural silvicultural studies. The best sites for growing trees on their woodlands were the well-drained, upland areas that were covered in either spruce or stands in which it was mixed with balsam fir, aspen and poplar. Once these sites were cut, however, they regenerated to these other species, ones that the mill could not or preferred not to process. Spruce Falls estimated that these upland tracts made up about one-third of its total forest area, and because they were the premier ones for growing trees, regenerating them to spruce was crucial to assuring the firm a long-term supply of high-quality fibre.²⁰

Realizing this goal thus became paramount for the foresters at Spruce Falls, and initially they had good reason to believe it would be best to rely on Mother Nature to do so. For starters, Lyons had visited Sweden shortly after joining Spruce Falls and had learned that this eminent forestry nation relied upon nat-

¹⁸ UTA, A2004-0017/26, R.W. Lyons, 6 August 1954, R.W. Lyons to J.B. Sisam.

¹⁹ In addition to the sources listed in endnote 17, see SFIA, *Regeneration Studies & Surveys* [Regeneration], G.W. Phipps, “Growth and Yield Plots—Season 1930-1931,” *ibid.*, History of Spruce Falls [History], 29 January 1969, R.H. Armstrong, “Silviculture From an Industrial Forester’s Viewpoint.”

²⁰ *Ibid.*, *Regeneration*, “SFPP: Report on Regeneration Studies, May 1938.”

ural regeneration for 80% of its cutovers each year.²¹ In addition, this approach was much cheaper than expensive artificial measures such as seeding or tree-planting. Finally, the broad, expansive stands of even-aged spruce growing on Spruce Falls' timber limits had been born of fire. Considering the magnificent job the flames had initially done in stocking the firm's woodlands, it was only natural to hope that they would again serve as the most effective means of producing the best possible timber crop.

By this time, Spruce Falls' foresters realized that addressing their regeneration issues was going to be a complex task, and so they sought assistance from the University of Toronto's Faculty of Forestry. The company laid the groundwork for what would become a symbiotic relationship with the forestry school for decades to come by supporting silvicultural research projects that the faculty's first wave of graduate students and professors conducted into Spruce Falls' most pressing forestry problems.²² The firm's connection to the faculty grew much closer when Gordon Cosens joined its ranks as a professor in 1934 and then served as its dean (1941-1947). The faculty so valued Cosens' presence that it allowed him to remain on a retainer from KC during his en-

tire tenure in academia and secretly took steps to ensure that the school's brightest lights ended up in the firm's employ.²³

With the faculty's help, Spruce Falls embarked on a decade and a half of experiments that aimed to promote natural spruce regeneration on upland sites, but they all failed. The company's attempts to use fire to re-establish a new crop of spruce in its cutovers proved abortive; the forester overseeing these trials deduced after years of disappointing results that "burning... is not the answer."²⁴ Employing different cutting methods produced equally dismal news. The company tried "strip-cutting," for example, which entailed alternately harvesting a narrow band of trees and leaving the next band of them standing. The theory was that the residual spruce would provide seed for the new crop in the thin strips of cutovers, but this approach did not produce the desired result. Spruce Falls also experimented with leaving seed trees in cutovers and girdling hardwoods in mixed wood stands to support spruce regeneration, but again the efforts proved abortive. The company's foresters repeatedly realized that the problem was that the seedbed was inhospitable to sustaining spruce seedlings because once the stand was opened, the mat of organic material

²¹ UTA, A2004-0017/26, R.W. Lyons, 15 June 1927, R.W. Lyons to C.D. Howe; Iroquois Falls Archives, unnamed file, ca. 1926, Notes by Professor O. Eneroth—Forestry Professor, Sweden.

²² For example, see UTA, A2004-0017/30, J.B. Millar, all documents.

²³ Kuhlberg, *One Hundred Rings*, 100 and 128.

²⁴ SFIA, Regeneration, J.B. Millar, "Regeneration on Kitigan Cut, July 12, 1933," from which the first citation is taken; *ibid.*, G.W. Phipps, 1 May 1930, "Brush Burning Experiment: SFPP, Woods Department;" *ibid.*, "SFPP: Report on Regeneration Studies, May 1938;" *ibid.*, Forest Nursery, 26 July 1949, Phipps to Glanzer, enclosing "The Silvicultural Program of the SFPP by E. Bonner, Chief Forester, SFPP," from which the final citation is taken.

simply dried out and the nascent trees died. Rotten logs, old stumps and hammocks of sphagnum moss provided good seedbeds for spruce, but these sites were all too rare.²⁵ Finally, Spruce Falls tried altering the company's logging practices to protect the "advance growth" spruce that existed at the time of the harvest, hoping that its presence could sufficiently re-stock the cutovers. The test data demonstrated, however, that a "very low proportion" of the advance growth survived the cutting.²⁶

Spruce Falls' foresters thus concluded that the company's most productive sites would require some sort of "artificial" treatment to regenerate them, and they soon agreed on what it would be. Initially, the firm tried casting spruce seed in cutovers, burned tracts, and uncut stands to see if it could produce a new crop, but it did not. Attempts to improve the sites by scarifying them with a piece of heavy equipment to expose the mineral soil failed to rectify the situation. Although the Second World War depleted the ranks of Spruce Falls' staff and consequently slowed down the company's

silvicultural work, by the time of the disastrous raid on Dieppe in 1942 the firm's senior foresters had concluded that they would have to begin treeplanting in a major way.²⁷

The end of the war provided the foresters in Kapuskasing with the flood of returning manpower that they needed to move forward with their forestry work, but they had to wage a continuous struggle to lay the groundwork for it. This meant compiling more data to justify their silvicultural effort, a need that became more pressing than ever now that they had determined that they required a costly reforestation program.²⁸ Cosens made this abundantly clear in early 1949. At that time, R.H. Candy, a leading silvicultural forester with the Canadian government who had surveyed all the previous studies that had investigated how harvesting was affecting forests across eastern Canada, presented a draft report of his findings to a national conference on the subject. Candy declared that the cutovers were "well to fully stocked for all species and all conifers. This is considered a most encouraging situation." Cosens

²⁵ In addition to the sources cited in the previous endnote, see: *ibid.*, no file, E. Bonner, "Forestry Report—Season 1937-1938 to 1941-1942;" *ibid.*, 1930-1980, R.C. Hosie, September 1945, "Report of Regeneration Studies of the Limits of SFPP, Kapuskasing, Ontario;" St. Marys Paper Archives [SMPA], N-3, unlabelled file, March 1947, R.C. Hosie, "Report on Regeneration Studies on the Limits of SFPP...," 21 July to 7 September, 1946."

²⁶ In addition to the sources cited in the preceding endnote, see SFIA, Regeneration, April 1939, E. Bonner, "Silvicultural Effects of Cutting to Various Log Lengths..."

²⁷ In addition to the sources cited in the preceding two endnotes, see SFIA, History, ca. late 1930s, G.G. Cosens, "The Cultivation of Nursery Stock for Pulpwood Planting;" *ibid.*, no file, 4 July 1942, "Forestry;" *ibid.*, 1930-1980, 19 January 1946, J.B. Millar to E. Bonner, enclosing J.B. Millar, "Observations made in July, 1945, at Kapuskasing;" *ibid.*, Regeneration, E. Bonner, "SFPP, Woodlands Department—Working Plan—Section I—Shanly Township, February 1938;" *ibid.*, E. Bonner, 13 April 1943, "Regeneration Survey of Cutover—1941."

²⁸ UTA, A2004-0017/4, E. Bonner, 28 October 1942, G.G. Cosens to E. Bonner.

immediately challenged Candy's conclusion, arguing that Candy was incorrect with regard to the upland areas on Spruce Falls' timber limits. These sites had reproduction but much of it was balsam fir and not spruce, Cosens explained, "and, so far as industry is concerned, balsam fir is of little merchantable value and subjected to budworm attack." Cosens then hit upon the crux of the matter. If Candy's sanguine conclusion went uncontested, "management of industry would become complacent when faced with such an optimistic statement." The upshot saw Candy amend his report in a way that incorporated Cosens' feedback.²⁹

The foresters at Spruce Falls adroitly took a few other steps to boost their case for adopting their reforestation program. In 1945, they formally linked arms with Ontario's Department of Lands and Forests (DLF) in investigating silvicultural issues on the company's limits. This was hardly unusual for the time—many companies began cooperating with the DLF in conducting this type of work after the war, but no other firm either had as much historical data on the subject or was as willing to share it as openly as Spruce Falls.³⁰ Far more importantly, Bob Lyons, now KC's vice-president, had made certain that part of this new partnership included sharing the cost of hiring the Faculty of Forestry's silvicultural profes-

sor, Bob Hosie, during the summer of 1945. Hosie was charged with surveying the state of the upland sites on Spruce Falls' woodlands to determine whether they were restocking to spruce after being harvested, and "if not, what steps should be taken to assure a future spruce cut on these lands." Spruce Falls already knew what Hosie would both find and conclude, and that was the point. J.B. Millar, KC's Chief Forester back in Wisconsin, candidly admitted after reviewing Hosie's first report that "there is very little difference between the findings of Professor Hosie and previous studies conducted by the company." Nevertheless, the value of the professor's observations and recommendations lay in his stature as an independent, well-respected academic, one whose views would carry weight at the firm's American headquarters. When Hosie drew one overarching conclusion—that "the only safe and economical way of increasing the present stocking of the young spruce crop seems to be to plant spruce immediately after logging," he provided an authoritative endorsement for a course of action that was already a fait accompli in the minds of Spruce Falls' foresters. The fact that they had already drafted plans for their reforestation program even before Hosie submitted his final report on the matter leaves no doubt that they were carefully choreographing

²⁹ *Ibid.*, A1972-0025/2, Holt Long, March 1949, R.H. Candy, *Reproduction Survey* (PPRIC); *ibid.*, A2004-0017/20, E. Bonner, 22 August 1949, E. Bonner to R.C. Hosie, enclosing 29 July 1949, Candy, "Report on Inspection of Cutover Mixed Wood Stands at Kapuskasing, Ontario [Report on Inspection]," from which the citations are taken.

³⁰ AO, RG1-305, Box 1, F.M. Plan for the Kapuskasing District, 1946, Vol. 1, Q. Hess, "Forest Management Plan for the Kapuskasing District, 1946;" UTA, A1972/0025, Box 25, all files.



Image 2: Spruce Falls' Tree Nursery in Moonbeam. The nursery's infrastructure included a water tower, numerous buildings, and seeding and transplant beds. The former were the sites in which the tree seeds were first planted. To help the seedlings grow and their soil remain moist, they were protected by rolls of snow fencing that were unraveled and suspended on simple wooden braces that were spaced along the beds. The fences are coiled up and run through the centre of this photo, and their wooden supports are visible over most of the beds (Courtesy of Ron Morel Memorial Museum, Kapuskasing, Walter Baczynski Collection).



Image 3: Working the Seed Beds. Growing the seedlings for the treeplanting program was extremely taxing, and women performed several important functions in this process. Tree seeds were sown in beds, where they grew for two years. During that time, they would be culled to eliminate the dead and languishing ones and respace the healthy ones. The photo illustrates Lorenzo Tremblay carrying boxes of seedling for Mary Tousignant and Adrienne Girard, who are sorting them. After two years, the young trees would be established in transplant beds, in which they would grow for another two years before they were ready for the reforestation work (Courtesy of Ron Morel Memorial Museum, Walter Baczynski Collection).

these events to achieve their ends.³¹

After being demobilized, Edward Bonner, Spruce Falls's regeneration specialist, began establishing Spruce Falls' tree nursery, the most northerly facility of its kind in Canada. The company

found a suitable site for it just east of Kapuskasing and north of the whistle-stop community of Moonbeam. Beginning in 1947, Spruce Falls' workers prepared the nursery's first beds and planted them with black and white spruce seed, which

³¹ SFIA, 1930-1980, R.C. Hosie, September 1945, "Report of Regeneration Studies of the Limits of SFPP, Kapuskasing, Ontario," from which the first citation is taken; *ibid.*, 19 January 1946, J.B. Millar to E. Bonner, enclosing J.B. Millar, "Observations made in July, 1945, at Kapuskasing," from which the second citation is taken; SMPA, Box—N-3, unlabelled file, March 1947, R.C. Hosie, "Report on Regeneration Studies on the Limits of SFPP... 21 July to 7 September, 1946," from which the last citation is taken.

had been extracted from the cones of local trees. Crews also constructed the necessary infrastructure to support the operation of the facility (Images 2&3).³²

In the meantime, Spruce Falls' foresters publicly proclaimed the company's commitment to reaching the gold standard for prudent woodland stewardship. Under the Crown Timber Act (1947), the company was required to submit a forest management plan that laid out the measures it would implement in administering its timberlands. In doing so, the document declared that "the objective of this working plan must be to arrange the cutting budget to fulfil present requirements without prejudicing the future yield of the forest. The attainment of this objective is only possible by placing the limits on a sustained yield basis."³³

A few years later Spruce Falls launched its comprehensive treeplanting program. The effort took a few years to hit full stride, but by the early 1950s the firm was annually planting between 1.1 and 1.5 million seedlings (nearly all black and white spruce) on forestland it both owned and leased from the Ontario government. The company's bush

workers did the planting, and initially they focused only on the already cleared patches of ground in the cutovers (e.g., skid trails). When this approach led to only 250 seedlings being established per acre, the company began using scarifying equipment to prepare more and better planting sites. The upshot was that planting density increased by well over 50%³⁴ (Image 4).

Predictably, Spruce Falls' trailblazing reforestation operation encountered many obstacles, and most of them still confront treeplanting contractors today (Images 5-7). One observer noted how productivity was hindered by the workers' inexperience, the difficulty of supervising them because they were so spread out, and "their natural dislike for the work."³⁵ Moreover, Spruce Falls had initially paid its planters a day rate, but their productivity—an average of 550 trees per day—was considered too low. Spruce Falls thus began experimenting, in the late 1950s, with paying its employees on a piece-work basis at the princely rate of 2.1¢ per tree. Although productivity roughly doubled, Ed Bonner realized that achieving that goal came at a

³² *Ibid.*, Forestry Branch, 24 September 1946, E. Bonner, "Forest Nursery," *ibid.*, 1930-1980, Bonner, "Forest Nursery," SFPP, Kapuskasing, Ontario, February 1949; *ibid.*, Regeneration, R.C. Hosie, "Diary of Trips Made by R.C. Hosie on the Limits of SFPP... 21 July to 7 September, 1946;" *ibid.*, Forest Nursery, April 18 1947, Bonner to G.W. Phipps; *ibid.*, 6 August 1947, Bonner to OAC; *ibid.*, 1 October 1947, Bonner to R.S. Carman; *ibid.*, 3 November 1947, G.G. Cosens to A.F. Buell; *ibid.*, 6 November 1947, Bonner to Buell; *ibid.*, Forestry Branch (MacDougall), 1947-48, 7 August 1947 and 23 January 1948, Phipps to F.A. MacDougall.

³³ *Ibid.*, 1930-1980, "Management Plan for the Ontario Limits and Freehold of the SFPP," 1949.

³⁴ SFIA, Forest Nursery, "Plantation Records of SFPP—Woodlands" and various annual records, 1948-1961; *ibid.* SFPP Timber Licence, R.C. Hosie, "Report of 1958 Summer Work on the Timber Limits of SFPP..."

³⁵ *Ibid.*, R.C. Hosie, "Report of 1956 Summer Work on the Timber Limits of SFPP..."

Image 4: Reforesting a Burned Area. In general, it was extremely difficult to establish new seedlings in cutovers and areas that had been burned. Here, Joe Lagacé is planting four-year old black spruce (they are in the bucket) in a burn in Teetzel Township in May 1952. In the background from left to right are Marko Kirins, Lucien Mongraine and Mac Haadiezzyu. To get their seedlings into the ground, the planters had to maneuver around downed trees branches and competing regeneration such as poplar and aspen whips that had sprung up as suckers after a disturbance, and cut through the thick mat of grass and sedges that now covered the ground. Scarifying sites using heavy equipment made treeplanting more efficient and increased the density at which seedlings could be planted (Courtesy of Ron Morel Memorial Museum, Walter Baczynski Collection).



Image 5: Searching for a Spot to Plant. This scene exemplifies many of the cutovers and "skid rows" (i.e., the paths along which timber would have been dragged to central locations where it was cut) that treeplanters would have faced. In this shot, N. or W. Trudeau is forced to navigate around debris and slash from the logging operations, stumps, and still standing timber in order to plant his bucket of seedlings (Courtesy of Ron Morel Memorial Museum, Walter Baczynski Collection).



Image 6: The Challenges of Planting Bareroot Trees on the Clay Belt. Nearly all the forests that Spruce Falls managed grew on heavy soils, most of which were clay, and tree nurseries at the time grew seedlings that were large "bareroot" stock. This meant that they were planted with no soil on their extensive root systems, and although the latter had been trimmed at the nursery, they were still unruly to plant. These conditions forced planters to use their shovels to cut triangular "wedges" out of the forest floor (note the clump of earth on the shovel of Ken Francis, the planter), place the seedling into the right angle of the hold they had created and fan the seedling's roots along the edges of the cut, and then replace the clump of earth. Finally they used their heel to seal the hole (Courtesy of Ron Morel Memorial Museum, Walter Baczynski Collection).



Image 7: Treeplanting Was Back-breaking Work. Frank Koster plants his bucket of spruce seedlings in a burn in Teetzel Township in May 1952. The photo was probably taken immediately after the frost had left the ground and the land was dry enough to plant; the black flies and mosquitoes were not out yet. Otherwise, it is unlikely that any treeplanter would have been toiling in the woods without a shirt! (Courtesy of Ron Morel Memorial Museum, Walter Baczynski Collection).





Image 8: The Proof Was in the Woods. This small stand of black spruce was planted in 1952. The trees were taller than Walter Baczynski, who is reaching up to one of them, by the time that this photo was taken in December 1959 (Courtesy of Ron Morel Memorial Museum, Walter Baczynski Collection).

worrisome price. "After 3 days of planting," he reported, "the production was so high that it was feared the trees were being thrown away or improperly planted... One man was found to have thrown away a bundle of 50 but it could not be proved that it was his bundle although the trees were hidden in his planting chance."³⁶

By the early 1960s, evidence of Spruce Falls' sustained yield forestry program was visible throughout the firm's woodlands. Perhaps most importantly, it was limiting the volume of wood it har-

vested to the level dictated by its annual allowable cut. Its nursery was producing roughly three million seedlings yearly; Spruce Falls planted a little more than half this total and the rest were used in the reforestation campaign by KC's new mill in nearby Terrace Bay (it had been built by the mid-1940s). Moreover, these trees had a survival rate of 75% after five years, (Image 8) and many of them were growing at an astounding foot and a half a year. Spruce Falls' officials thus projected that they would be

³⁶ *Ibid.*, Forest Nursery, "Plantation Records of SFPP—Woodlands," from which the citation is taken, and various annual records, 1948-1961.



Image 9: Conifer Seedlings Faced Huge Challenges When Planted on the Clay Belt. This spruce seedling was planted in May 1952 and photographed two years later. It illustrates the minimal growth that often occurred as a result of competition from surrounding vegetation (Courtesy of Ron Morel Memorial Museum, Walter Baczynski Collection).

able to harvest at least the same cordage from the planted forest as they did from the pre-industrial one in seventy instead of a hundred years. Furthermore, Spruce Falls continued to push its forestry research and development work as aggressively as ever, and it launched one particularly noteworthy initiative in 1956. This effort addressed the problem presented by fast-growing grasses, bushes and deciduous trees that were smothering the slower-growing spruce seedlings that the company was planting (Image 9). As a remedy, the firm began using aircraft to apply herbicides to “release” the struggling spruce seedlings by knocking back their broad-leaved competition for

a few years. Although the initial chemical sprays proved ineffective in some situations, overall the treatments dramatically improved the health and growth of the planted stock (Image 10).³⁷

Not surprisingly, Spruce Falls’ exceptional silvicultural program attracted significant national attention. The country’s major dailies ran stories about it, as did the industry’s trade magazines.³⁸ Similarly, R.H. Candy, the Canadian government’s silvicultural researcher whose work Cosens had aggressively criticized, was floored by the work that Spruce Falls was doing. After touring its woodlands and speaking with its senior officials, Candy remarked that “here is a company which puts the silvicultural fact into practice.”³⁹ Understandably, Spruce Falls also became *the* source of information about industrial silviculture in the decades after the Second World War, one that government and industry officials repeatedly tapped.

³⁷ *Ibid.*, Forestry & Engineering: Forest Nursery Moonbeam, 12 November 1959, C. McIntyre to F.N. Wiley; *ibid.*, SFPP Timber Licence, R.C. Hosie, “Report of 1958 Summer Work on the Timber Limits of SFPP ...,” *ibid.*, 1930-1980, 14 April 1961, G.W. Bell, “Planting Policy Review—SFPP—Woodlands,” *ibid.*, Regeneration, “Planting Surveys Before Planting,” 1950s; *ibid.*, Miscellaneous, 14 September 1959, G.W. Bell, “Conifer Release by Aerial Spraying—1959,” AO, RG1-335, TB-3, SFPP, “Revision of April 1959 - Management Plan for the Ontario Limits and Freehold of the SFPP—Woodlands.”

³⁸ 18 July 1949, *Toronto Telegram*, “SFPP’s 100 Year Reforestation Paper,” *ibid.*, Forest Nursery, 21 July 1949, P. Glanzer to G.W. Phipps.

³⁹ UTA, A1972-0025/20, E. Bonner, 22 August 1949, E. Bonner to R.C. Hosie, enclosing 29 July 1949, R.H. Candy, “Report on Inspection,” from which the citation is taken; Library and Archives Canada, RG39, Box 64, 45907-1, 13 December 1938, G.G. Cosens to D.R. Cameron; *ibid.*, 4 January 1939, Cameron to Cosens.

Image 10: The Impact of Aerial Tending. This photographically illustrates the impact aerial tending had on the growth of the seedlings. The gauge indicates that the trees were planted in 1951 and grew an average of 2½ inches annually until 1956; during this period they were competing for sunlight, moisture and nutrients with the surrounding vegetation. Within a few years of being “released” by the aerial application of a herbicide in 1956, the spruce began growing an average of roughly 1½ feet per year. (Courtesy of Ron Morel Memorial Museum, Walter Baczynski Collection).

One of them aptly captured the unparalleled work that was going on in the woodlands around Kapuskasing as representing “a forestry programme that cannot be equalled... in Canada.”⁴⁰ By 1960, leading industry and government forestry experts from northern Ontario were openly acknowledging that their best cutover sites were generally not regenerating to spruce and that KC was the only firm across the province’s hinterland that was taking effective steps to address this problem.⁴¹

But Spruce Falls had could not afford to bask in this praise, for at this very time it was grappling with an issue that threatened the very foundation—secure tenure to its Crown woodlands—upon which it had built its silvicultural program. The company’s pulpwood lease with the government was set to expire in 1962. In preparation for renegotiating it, KC’s senior officials began reviewing the agreement’s terms and comparing them to those enjoyed by Ontario’s other



large pulp and paper makers. In doing so, KC’s executives were stupefied to learn that Spruce Falls was the province’s only newsprint maker to which the government had given a pulpwood lease that included perpetual tenure.⁴²

G.H. Rosborough, Assistant to the President of KC Canada, recognized that this was potentially the existential Pandora’s box for Spruce Falls, and he was emphatic that the company open it in a most calculated way. He cautioned KC Canada’s president that, if Spruce Falls

⁴⁰ SFIA, Forest Nursery, inquiries to SFPP from 1949 to 1950; *ibid.*, 1969-1970: Correspondence and Reports, 24 February 1960, F.R. Hayward to F.N. Wiley; *ibid.*, 4 March 1960, Wiley to Hayward; *ibid.*, Management Meetings—Speeches, etc., 24 March 1958, R.C. Hosie, “Recent Improvements in Nursery Practices,” from which the citation is taken.

⁴¹ *Ibid.*, Regeneration, 29 February 1960, “National Regeneration Resolution Committee Report—Northern Ontario Section—Canadian Institute of Forestry.”

⁴² *Ibid.*, Timber Limits, 10 January 1961, to G.H. Rosborough to F.S. Seaborne.

made “any attempt to alter or change this agreement, the Crown will immediately request elimination of the unlimited renewal clause to make it conform to those in the agreements of other companies.” Rosborough thus reasoned that it would be safest if the firm simply requested that its agreement be renewed with only minor changes to the description of its timber limits, which had been altered since the previous agreement had been signed in 1941. Furthermore, the firm should take an “informal approach” to dealing with this subject by arranging to have Gordon Cosens broach it with the Ontario government. Rosborough was adamant that a “formal approach with legal counsel” would prove to be disastrous because it “would immediately invite participation by the [government’s] legal advisors. This could result in a complete analysis of the agreement, and probably lengthy negotiations.... In all probability, the new agreement would be much less favourable to Spruce Falls than the present one.”⁴³

Resolving this issue was delayed, however, because it became subsumed by another one. Foresters within Ontario’s Department of Lands and Forests (DLF) had been lobbying—unsuccessfully—for over half a century for the government to reinvest at least some of the revenues that it derived annually from its forests into

renewing them. After the Second World War, these calls had grown much louder. The DLF’s own minister publicly declared in 1949 that a major reforestation effort was needed in the Crown woodlands and the government was obliged to pay for it. A few years later, the DLF dramatically increased the stumpage dues the timber companies paid to cut wood explicitly to fund just such a project, but then the elected officials balked at doing so. They argued instead that the public treasury depended on the additional “income charges as a source of revenue to help pay for social services and some of the costs of the non-revenue producing departments.”⁴⁴ The DLF’s foresters stubbornly soldiered on. They succeeded in pushing the provincial government to announce in 1958 a plan to begin entering into regeneration agreements with Ontario’s largest forest companies, and they were convinced that the first contract should be made with the province’s “most progressive” firm, namely Spruce Falls.⁴⁵ The company’s veteran foresters had their own special reason for being at the head of this particular line. Gordon Cosens, now Vice-president of KC Canada, asserted that this would be appropriate given the fact that his firm had “done more regeneration work than other companies,” but he attached a far greater political value to KC inking the first contract. “It would

⁴³ *Ibid.*

⁴⁴ Kuhlberg, *One Hundred Rings*, 144; AO, RG1-A-I-10, 1, Adv. Comm. Minutes: Jan. 5 1955 - Dec. 13 1957, 16 December 1955, Minutes of Meeting of the Whole Committee, from which the citation is taken.

⁴⁵ AO, RG1-E-10, 74, T.M.-Regeneration Policy—Vol. 3, 28 April 1958, C.E. Mapledoram, In the Matter of providing... , from which the citation is taken.

help sell his forestry policy to the board of directors," Cosens admitted.⁴⁶

Once again, however, the Ontario government eschewed its duty by refusing to finance a meaningful forestry program. Over the course of the late 1950s and early 1960s, the provincial government delayed renewing Spruce Falls' lease to its pulpwood limits until the firm had agreed to the terms of the regeneration clause that would be included in the contract. Spruce Falls negotiated in good faith, and even offered to continue paying a portion of its silvicultural costs, which totalled roughly \$70,000 each year. Senior staff at the DLF verified the firm's reforestation expenses and urged the government to cover them; this was *prima facie* a reasonable request considering that Spruce Falls was paying over \$900,000 annually in Crown dues to cut its timber! But the politicians simply refused to authorize spending a significant sum of public money on the project.⁴⁷ Fred Seaborne, President of KC Canada, provided his colleagues with a *précis* of the frustrating situation in early 1962. The impasse, Seaborne underscored, was that, even though the minister and his deputies were "most anxious to execute the whole contract," the "Treasury Department is loathe to grant any refunds, or make any

concessions which would reduce their total revenue from natural resources."⁴⁸

Curiously, the Ontario government demonstrated that it would support forestry measures when it made political sense. Since the early 1900s, the provincial politicians had approved spending thousands of dollars each year in southern Ontario to assist property owners in reforesting their lands. In this part of the province, where tellingly most of Ontario's voters lived, the government funded a program that rendered readily available free seedlings, planting services, and advice, and tax breaks to boot, to land owners who made long-term commitments to keeping their properties under forest cover. The upshot was one of the country's most effective and longest-running treeplanting programs.⁴⁹

Although the Ontario government had very different priorities in terms of managing its commercial woodlands—it was fundamentally averse to funding reforesting them—it realized at this time that it had a huge incentive to take over this activity. The discussions at this time surrounding regeneration and pulpwood concession agreements had raised a new issue, namely that the party that paid for the seedlings and/or planting them acquired a proprietary interest in them go-

⁴⁶ AO, RG1-E-10, 167, 7-11-2 T.M.-KC Corp.-Vol 1, 11 March 1958, Memorandum to Minister Mapledoram.

⁴⁷ This battle can be traced through the sources listed in the two preceding endnotes.

⁴⁸ SFIA, Timber Limits, 16 February 1962, F.S. Seaborne, "Status of Spruce Falls Crown Timber Concession."

⁴⁹ M. Kuhlberg, "Ontario's Nascent Environmentalists: Seeing the Foresters for the Trees in Southern Ontario, 1919-1929," *Ontario History*, 88:2 (June 1996); J. Bacher, *Two Billion Trees and Counting: The Legacy of Edmund Zavitz* (Toronto: Dundurn Press, 2011).

ing forward. Gordon Cosens recognized the crucial importance of this legal question, arguing that Spruce Falls should always pay a portion of its treeplanting costs because doing so would “protect the Company equity in the limits.” The Ontario government also came to share this understanding of the matter, and feared losing ownership over prospective timber on Crown lands if private parties paid to replant them.⁵⁰

This concern was the impetus behind the government’s decision to implement legislation in 1962, and the new law dealt a major blow to hopes for improving forestry in the province. The amendment to the Crown Timber Act made the government solely responsible for regenerating its forests, thereby protecting the government’s control over the next crop of trees. The problem, however, was that the statute had now formally separated harvesting the woodlands (which was under industry control) from regenerating them (under government control).⁵¹ This approach was anathema to practising effective silviculture.

Nevertheless, this legislation and Ottawa’s benevolence soon broke the logjam between Spruce Falls and the Ontario government. In 1949, the federal government had implemented the

Canada Forestry Act that had offered the provinces—for the first time—financial assistance with their forestry work. In 1962, Ottawa expanded the program to allow the provinces to tap federal funding to pay for part of the cost of reforesting Crown timberlands, and two years later Ontario signed an agreement to access this money. This was just the stimulus needed to convince the provincial government to execute with Spruce Falls both the company’s pulpwood lease—it included the provision for perpetual tenure that the firm held so dear—and the regeneration agreement, which was the province’s first. Under the latter arrangement, which was to run for seven years, Spruce Falls would continue planting four seedlings for every cord of wood it harvested, and the Ontario government would pay the company a flat rate for performing this work.⁵²

Although the advent of the Regeneration Agreements boded well for proponents of industrial forestry in Ontario, political considerations determined that they would not realize their aspirations, at least not for a while. The federal government decided in 1966 to withdraw from the shared-cost forestry program in an effort to channel more funding into its rapidly expanding network of

⁵⁰ Spruce Falls tried to reinforce its proprietary interest to the trees it planted by marking the perimeter of its plantations with Scotch pine seedlings, a species that was not native to Ontario: conversation with Paul Krabbe, 26 October 1995; SFIA, Timber Limit, 24 October 1962, Regeneration Agreement with DLF, from which the citation is taken; AO, RG1-E-10, 74, T.M.-Regeneration Policy—Vol. 5, 4 December 1962, ODLF Memo From Timber Branch to Minister.

⁵¹ R.S. Lambert and P. Pross, *Renewing Nature’s Wealth* (Toronto: DLF, 1967), 418.

⁵² Armson et al., “History of Reforestation in Ontario,” 10-14; SFIA, Timber Limits, Licence D-2069 (25 October 1962); *ibid.*, Regeneration Agreement, 5 February 1962 and 3 April 1967, Regeneration Agreements between DLF and SFPP.

social welfare initiatives.⁵³ The Ontario government's commitment to improving forestry in the province was undermined by similar financial concerns. Over the course of 1970-71, provincial and industry officials had been engaged in discussions over how to improve silviculture in Ontario. A.J. "Art" Herridge, chief of the DLF's Timber Branch, outlined the government's major concerns in a letter to the industry's lobby group. The cost of the work was rising so quickly that less area was being planted each year, and the quality of the planting was wildly inconsistent across the province. What really irked the provincial politicians, however, was their "feeling that the Companies in their P.R. projects do not give fair credit to the part played by the government."⁵⁴

Soon enough, Ontario's elected officials demonstrated yet again that they were far less interested in regenerating the Crown forest than Spruce Falls. In the early 1970s, the company was negotiating its next Regeneration Agreement (RA) with the government, and it was also increasing the volume of wood that it was harvesting from its pulpwood limit. Spruce Falls thus sought a commitment from the government to expand the size of area that the latter would replant each year under the firm's new RA. The provincial officials refused to provide it, however, because doing so would simply

be too expensive; they also terminated Spruce Falls' RA in 1973. Thereafter, the government and not Spruce Falls would both fund and direct the reforestation effort on the company's Crown woodlands. Whereas Spruce Falls had traditionally replanted all the areas that required this treatment (it had reforested an average of roughly 3,700 acres annually), henceforth the government would determine the scope of the reforestation effort. Significantly, even though Spruce Falls significantly expanded the area it cut over the next five years, the provincial government provided funding to replant an average of fewer than 2,000 acres annually during this period.⁵⁵

Although the mid-1970s saw a pall of uncertainty hanging over forestry in Ontario, the trying times were ripe for the province to make transformative progress in terms of managing its woodlands. A strong and vibrant environmental movement in Ontario had sprouted in the previous decade, and part of its message was a call for the politicians to become prudent stewards of the province's Crown forests. The elected officials were finally willing to fulfil their fiduciary responsibilities in this regard because the public would no longer countenance its forests being harvested without them being renewed. To assist in achieving this

⁵³ Kuhlberg, *One Hundred Rings*, 168.

⁵⁴ SMPA, F-4-3—Forestry—Silviculture... Current, 8 January 1971, A.J. Herridge to R.B. Loughlan.

⁵⁵ SFIA, Regeneration Agreement, 6 May 1971 and 11 April 1973, Agreements between Minister of Lands and Forests and SFPP; *ibid.*, SFIA, 1973-1974—MNR, 18 September 1972, A.J. Herridge to M.S.M. Hamilton, from which the citation is taken; *ibid.*, 1930-1980, 28 September 1977, "Comparison of Areas Cut with Areas Planted."

aim, the Ontario government seconded Professor Ken Armson from the Faculty of Forestry to conduct a major investigation into the state of silviculture across the province and recommend measures for improving it. Armson's principal achievement was re-uniting harvesting and regenerating the forest by returning to industry responsibility for carrying out the latter activity. By the early 1980s, Armson had set Ontario on a path toward better forest management from which it has not looked back.⁵⁶

Remarkably, several forces had compelled one pulp and paper company to begin blazing this trail a half-century earlier. During the late 1920s, Spruce Falls had launched and funded its own comprehensive silvicultural program. In terms of explaining its motivation, KC, its parent company, was renowned for investing in avant-garde policies. Furthermore, the firm had hired highly enlightened and savvy foresters to design and implement its silvicultural strategy, and they were able to retain management's support for their work. Spruce Falls also enjoyed a very favourable relationship with the Ontario government.

Of all the factors that explain Spruce Falls' behaviour, however, the security of tenure it enjoyed to its timberlands was paramount. From at least the turn of the twentieth century, forest companies in Canada had argued that long-term, guar-

anteed tenure to their timberlands under reasonable conditions was the *sine qua non* for operating their businesses successfully and investing in silviculture. It was definitely not the sole precondition needed for sound forest management; there are countless examples of landlords in Ontario—from large corporations to small woodlot owners—razing their forest holdings over the years without considering the tracts' future health. Nevertheless, during the period in question secure tenure was an essential prerequisite for firms spending money on improving their silvicultural activities.

Skeptics could argue that industry staked this position during the early to mid-twentieth century simply as a red herring to defend its refusal to invest in forestry, but the evidence shows that this cynicism is misplaced. A handful of companies *a mari usque ad mare* initiated major reforestation programs like the one Spruce Falls carried out, and all of them enjoyed secure tenure to the lands they managed.⁵⁷

Spruce Falls' outstanding silvicultural program is noteworthy because it counters so many misconceptions about our country's forest history. For starters, many authors have argued that capitalism was the culprit in terms of convincing industry to invest in activities such as treeplanting that held no hope of generating a return for over half a century. But

⁵⁶ G. Warecki, *Protecting Ontario's Wilderness: A History of Changing Ideas and Preservation Politics, 1927-1973* (New York: Peter Lang, 2000); K. Armson, *Forest Management in Ontario*, 1976.

⁵⁷ Mackay, *Heritage Lost*, 102, 119 and 133-40; R. Bott and P. Murphy, *Living Legacy: Sustainable Forest Management at Hinton, Alberta* (Alberta: Speedfast Color Press Ltd, 1983); June-July 2019, correspondence with Bruce Mayer.

Spruce Falls—more specifically, its parent firm, Kimberly Clark—epitomized American capitalism. KC was vehemently anti-union, for example, and remained the last major pulp and paper firm in the United States that organized labour penetrated. Moreover, as much as Spruce Falls' sought to foster loyalty among its employees, its management team valued them based strictly upon their contributions to the company's bottom line.⁵⁸

There has also been a strong inclination to take issue with foreign companies—especially American ones—controlling large parts of our natural resource industries, but again, the tale of Spruce Falls illustrates that this should not necessarily be cause for alarm. From the time that the company began its forestry program in 1928 until it closed its nursery in Moonbeam roughly fifty years later, firms based in the United States had acquired significant stakes in many areas of Canada's economy, particularly the pulp and paper sector. A few voices decried this trend at the time, and they grew much louder and more numerous after the Second World War; KC buying the enterprise in Kapuskasing epitomized precisely the behaviour that Canadian economic nationalists found so unsettling. Yet KC was an exemplary forest manager for the better part of a half century. In contrast, during the period in question iconic Canadian firms such as Abitibi Power and Paper, which operated inter-

alia six sizeable mills in Ontario, and the provincial government, which owned the timberland upon which all these mills depended, were anything but.⁵⁹

Furthermore, the story of Spruce Falls' silvicultural program in Kapuskasing presents a challenge to one long-held myth about industrial forestry in Canada. Groups that have battled the country's timber companies over the years have long criticized them for gearing their reforestation projects toward establishing massive monoculture tree farms. Spruce Falls' foresters had a very different goal, however. While they undeniably strove to regenerate the species—spruce—that they most valued, from the outset all their studies were designed to gain an understanding of the ecology of the pre-industrial forest and how best to recreate it. When their data indicated that they were harvesting stands that supported an average of 200 spruce trees per acre, for instance, they reasoned that they should aim to plant roughly three times as many spruce seedlings per acre because “the shrinkage... [would] represent mortality” during the life of the trees.⁶⁰

The evidence of this holistic approach to forest management pervaded the company's silvicultural project. For example, balsam fir regeneration was preponderant on Spruce Falls' most productive cutovers (i.e., well-drained uplands) but the tree was ill-suited to its industrial needs and vulnerable to attack by the

⁵⁸ Heinrich, *Kotex*, 104-110; SFIA, Forest Nursery, 21 February 1952, G.W. Phipps to R.W. Lyons.

⁵⁹ K. Norrie et al., *A History of the Canadian Economy* (Toronto: Harcourt, Brace Jovanovich: 1991), 446-52.

⁶⁰ SFIA, 1930-1980, 8 February and 7 March 1950, E. Bonner to J.B. Millar; *ibid.*, 28 February 1950, Millar to Bonner, from which the citation is taken; *ibid.*, 6 June 1950, Millar to Bonner.

spruce budworm. In spite of these major drawbacks, however, officials with Spruce Falls recognized that this species had a critical ecological role to play in the forest, and that monoculture forestry was not the bull's eye for which they were aiming. "The growth of any tree in pure or nearly pure stands greatly increases the danger of serious outbreaks of disease or insects," Ed Bonner's dissection of the issue explained in 1941, adding that spruce would gradually re-establish itself anyway as the balsam fir died back. For these reasons, Bonner was emphatic that "it is advisable that such mixtures be maintained."⁶¹ Likewise, he had learned very early in his reforestation program that it would be best not to plant straight rows of evenly dispersed seedlings. As Bonner reported to the government's local research forester, "in the natural forest, the trees are irregularly spaced and often in clumps. We should attempt to duplicate this in the cutover. Only by doing so, will we establish successful stands at a reasonable cost."⁶²

Ultimately, the story of KC's forestry program in Kapuskasing between 1928 and 1976 has a particular resonance in our contemporary world as we confront unprecedented environmental problems. It demonstrates that, in a free market economy, corporations can and will implement the "right" environmental policies when given the proper incentives to do so. With specific reference to Crown

forests in Ontario, the provincial government had a fiduciary duty to manage them sustainably and had the resources to do so. And yet, for the first three quarters of the twentieth century, the provincial government largely shirked this responsibility and did so with practical political impunity because the electorate did not consider realizing this goal to be a high priority. If it is true that, in a democracy, the people get the government they deserve, then during this period we, in Ontario, got the level of forest management that we deserved. As Howard Kennedy, who led Ontario's royal commission into forestry in the mid-1940s, sagely predicted at the time, "unless the public is willing to spend large sums of money on forestry in the next quarter-century, efforts towards improvement, or even maintenance, of the present forest conditions, will continue to be little better than a gesture."⁶³ Governments will act in an environmentally irresponsible manner if doing so is popular, with the reversal of the carbon tax in Ontario in 2018 being a classic example. If our governments are going to implement truly effective policies to mitigate climate change, the public must both demand them and be willing to pay for them, a stage we have yet to reach.⁶⁴ Let us hope that the length of time it took for Ontario's electorate to demand sustained yield forestry is not an inauspicious omen of things to come in this province.

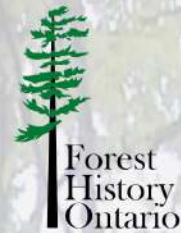
⁶¹ SFIA, 11 June 1941, "Forestry Report."

⁶² SFIA, Miscellaneous, 22 October 1959, E. Bonner to W. Stanek.

⁶³ *Report of the Royal Commission on Forestry*, 1947 (Toronto: Baptist John, 1947), 179.

⁶⁴ <<https://www.cbc.ca/news/politics/election-poll-climate-change-1.5178514>>

**June 14, 2024
9:30AM-3:30PM**



THE REWARDS OF PLANTING TREES

A Forest and Conservation History Tour through Guelph and area, Ontario.

The City of Guelph and more particularly the Ontario Agricultural College properties have had a long history of innovative reforestation projects. We will see an example of these early plantings. We will visit the Arkell Springs site where there is an early example of using the forest to clean drinking water. We will also visit a site where brook trout have been able to access the Speed River, as well as other sites of interest.

Registration is required. Cost is \$40 for Forest History Ontario members, \$60 for non-members and \$20 for students. Fees are payable by e-transfer or cheque to Forest History Ontario. Lunch will be provided. Please indicate any dietary needs.

Please register by June 10th. Fees are non-refundable after this date but can be substituted. Participants must be able to walk up to 15 minutes a few times, on imperfect forest trails. We will travel by bus to the various sites, and seats are limited.

The meeting site will be in the City of Guelph, location TBD.

**For more information contact: Terry Schwan at:
(519) 362-2098 or schwell1@rogers.com.**

***To register, please contact: Brooke McClelland at (416) 803-3177 or
bmcclelland@forestsontario.ca.***

**This tour is hosted by the Forest History Ontario.
Proceeds go to support the activities of Forest History Ontario. www.ontarioforesthhistory.ca**

A Forest and Conservation History of Hanover and West Grey Ontario

October 14, 2023

At one time Hanover was known as the Furniture Capital of Canada. We will see examples of this from a forest history aspect. There will be tours to early plantations on Grey County properties and private land near Wilder Lake. We will visit an early plantation designed to protect Hanover's water supply and visit the Sulphur Springs Conservation Area. There will be stops at other cultural areas of interest.

Terry Schwan, R.P.F. (Ret.)

Donna Lacey, R.P.F. (Assoc.), Manager of Forestry and Lands, Saugeen Valley Conservation Authority

Other Contributions to this program include,

Jim Eccles, R.P.F. (Assoc.), Eccles Forestry Ltd

Lee Thurston, R.P.F. (Assoc.), Grey County Tree Cutting By-law Officer



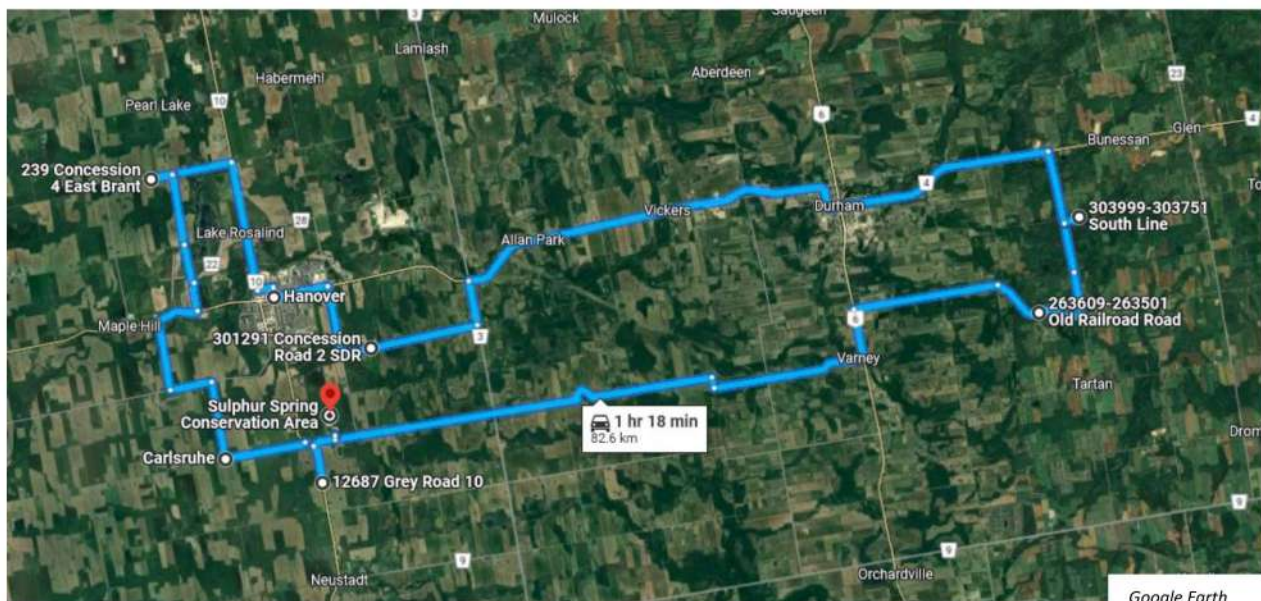
This tour is hosted by Forest History Ontario, and made possible by the generous support of our sponsors, Bruce Grey Woodlands Association, Saugeen Valley Conservation Authority, Grey County and Bruce County Forestry. Proceeds go to support the activities of Forest History Ontario.

NOTE: This tour guide has been divided into three parts. This section in *Forestry* includes the area around Hanover. The second part of the tour, the West Grey (Durham area) side, is posted on the Forest History Ontario website. The third section is the former Dierlamm property and is posted as a separate article on the website. The route map below shows the entire tour route. The second and third articles are shaded in the agenda.

Agenda October 14, 2023

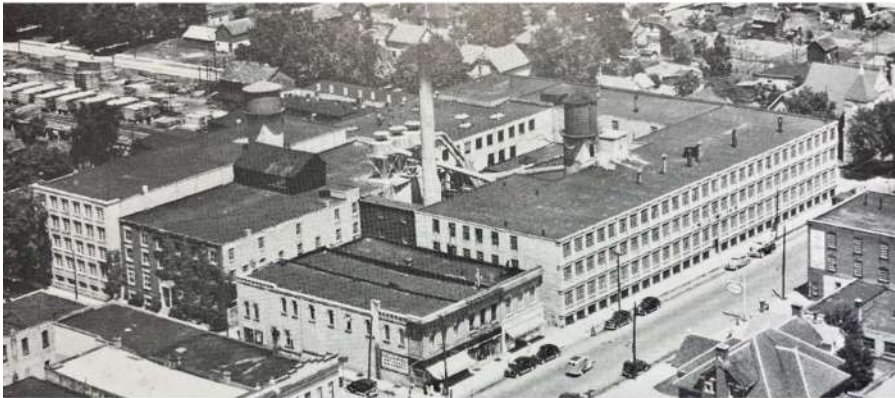
- 9:00 Coffee and donuts
Meet at the Sulphur Springs Conservation Area at 261123 Grey Rd 28, Hanover.
- 9:30 Travel to Wilder Lake Plantations, Egremont Twp.
- 10:30 Grey County Forest, Glenelg Twp.
- 11:30 Knechtel Forest, Bentinck Twp
- 12:00 Lunch, Sulphur Springs Conservation Area, NormanbyTwp
- 1:00 Ruhl Lake, Brant Twp.
- 2:00 Carlsruhe church yard, Carrick Twp.
- 2:30 Former Dierlamm property, Normanby Twp.
- 3:00 Sulphur Springs Conservation Area, NormanbyTwp.

Route Map



The Knechtel Forest

Knechtel's of Hanover was the third oldest furniture company in Ontario before its closing. It began in 1864 when 21-year-old Daniel Knechtel carried his tools from Waterloo County to Hanover. He started building barns and houses but saw the need for household furniture. In 1866 he and his brother Peter began to make furniture by hand. He built a house with a workshop and showroom/sales floor. They bought a sawmill near Hanover in 1868. By 1871 the brothers had built a small factory and employed a dozen men. They manufactured furniture and type of wooden ware you could imagine such as tubs, barrels, yokes and handles of all types. The business expanded with a new frame factory in 1874 with 30 employees and in 1884 a brick factory was built and with many extensions over the years. In 1887, Daniel took on new partners; Solomon his brother and Henry Pepler. Peter had left earlier to build his sawmilling business. In December 20, 1900 a fire started in the boiler room and totally destroyed the two-acre factory. The loss was about a million dollars and 200 men were out of work.



Knechtel's Head Office, Showroom and Main Factory, Hanover, 1940's

Exactly one year later new a four-story cement brick factory was opened on the same site. The new building had a first-class sawmill. A few years earlier local lumber was getting scarce. So the company purchased a large tract of timber and sawmill on the Bruce Peninsula. As well, they bought furniture

factories in Walkerton and Southampton and another sawmill in Bruce County. These purchases allowed the company to continue you operating while the new factory was being built. All three factories had automatic sprinkler fire protection systems installed in 1901. The company thrived over the next three decades. However, during the Great Depression furniture sales were slow and the two Walkerton and Southampton factories closed.

Daniel Knechtel continued as President working from dawn to dusk until he died at the office in 1936 at the age of 92. His son Jacob "J.S." took over but he died two years later. His son Karl became President and then Chairman until his death in 1972. But Knechtel's wasn't the only furniture in company in Hanover and area. Henry Pepler left Knechtel's in 1910 and formed Pepler Furniture with his four sons. Pepler's eventually became part of the Sklar company. Jared Spiesz, founder of Spiesz Furniture Company and a former Knechtel employee established in the west end of Hanover. Knechtel Cabinet Kreations was formed with some of the Knechtel extended family. Hanover Kitchens and Heintzman Pianos were also established in Hanover.

In the area there was Koehler Manufacturing in Durham, Krug Brothers and Heirloom in Chesley and Bogdon & Gross in Walkerton. Krug Brothers in Chesley was under the management of Howard Krug, a University of Toronto forestry graduate in 1926, was one of the first manufacturers to purchase forest properties and manage the forest for continuous production of hardwood logs. Previous practice was to buy a property and sell it as soon as it was logged. Many mills put title to the timber on the deed until it was logged. The companies also depended on farmers to deliver logs to the sawmill.

In 1983 the Bank of Montral called their loan and Knechtel's was not able to re-structure.



1952 (L&F) and SWOOP 2006 (All black and white aerial photos courtesy of Saugeen Conservation Authority)



Oak plantation



Red cedar plantation, 2023

John Jackson (1910-1978) had a 30-year career with the Department of Lands and Forests from 1945 to 1975. He was a graduate of University of Toronto Faculty of Forestry in 1932, but could not find a forestry job in those years due to the depression and cut backs in government. Following serving as a meteorological officer for the RCAF in World War II and a stint as a teacher, he accepted a job with the Department of Lands and Forests and was assigned to Owen Sound as the Zone Forester. For six months he worked with Ike Marriott an almost legendary Extension Forester out of Galt. Jackson left Owen Sound in 1954 and returned to Toronto to develop a private land forestry program.



Jackson says he could not have had a more enthusiastic forestry instructor. For six months they travelled together and visited County Councils and reported on County Forests. They talked to service clubs, schools, farm groups, and Boy Scouts. They wrote articles, made radio commentaries, attended exhibits at fall fairs, marked demonstration woodlots for cutting and laid out farm windbreaks. Jackson answered letters and telephone calls covering the whole range of tree planting and woodlot care. In the spring of 1946, he established the first forestry office in Owen Sound to serve Grey and Bruce Counties. In Owen Sound he worked with the County Agricultural Reps and with the two only permanent staff members of Lands and Forests. They were Herb Atkinson and Bert Samells who looked after the Main Tract in Glenelg and the Sauble Forest respectively.

In the summer of 1946, he prepared a small portable forestry exhibit and set out to visit the local fall fairs. At the Hanover Fair he met Harold Boettger of Knechtel's Furniture company. Knechtel's had just purchased one hundred acres just south-east of Hanover (Con II SDR, Lots 15 and 16, Bentinck Township). The Company wanted to plant hardwoods for their future needs, particularly sugar maple and cherry. Jackson explained why this would not work. He encouraged planting pine and spruce on the open land and management of the hardwood forest. They decided to plant some small hardwood blocks including red oak and walnut. Knechtel's were also interested in planting red cedar to use in their Lane (red) cedar chests. Boettger went on to say they bought some woodlots and would 'take off the bush'.



Normanby Reflections, A History of Normanby Township Vol I

Local students planting trees about 1947 or 48. Jackson in background. Technician unknown.

They also bought from farmers using the same practice. They thought this forest might be a good opportunity to demonstrate good practice and how to grow veneer-quality trees.

They also decided to involve school children planting trees on the front part of the property.

Starting in 1947, at least nine rural schools in Bentinck and Normanby Townships were involved. Student worked for two hours planting, followed by a lunch and a woodlot tour by the Zone Forester. Before the students arrived, the fields had been furrowed with rows six feet apart. Students were given instruction how and where to plant.



Normanby Reflections, A History of Normanby Township Vol I

John Jackson showing students annual growth rings



Courtesy John Hilton

Stuart Hamilton, Grey County Forester, discussing tree measurements with students. About 1950.

Heritage Square, Hanover

In 1983, Knechtel Furniture Company closed. Twenty years later, the site of the factory was redeveloped into a municipal park dedicated to Knechtel's. Hanover Heritage Square is a beautiful park that features a variety of historical buildings and monuments. This park features historical recognitions, a sculpted granite water feature, music garden, community amphitheatre, and many species of shrubs, grasses and trees. The park also hosts a variety of events throughout the year including concerts, festivals and farmers markets.

Ruhl Lake

Ruhl Lake is located at Con III, North Durham Road (NDR) Part Lots 62 and 63 (45 Ac) and Con IV NDR Part Lot 29 (65 ac) Brant Twp, now Brockton.

Hanover was incorporated as a village in 1899. A constant predictable water supply was required. The original water system was established in 1901 with a pumping station on 7th Ave. In 1901, the pumps were water driven turbines, using the Saugeen River for both supply and power for pumping. The system was established mainly for fire protection.

As the Town grew, officials became aware of the unreliability of the river as a source of water. Flooding, drought and agricultural runoff made the river a poor and unpredictable source of good quality water for the growing town. As a result, Town Officials began looking for another reliable good quality water source. Conrad Ruhl, a Town Official and property owner on Concession III, North Durham Road, Brant Township offered the Town a forty-five-acre parcel of land containing a 6-acre spring-fed lake. The lake known as Ruhl Lake was purchased by the Town for a sum of one dollar. In 1912, Ruhl Lake became the water source for the Town.

The system consisted of a pumping station on the north side of the lake and a 12-inch water-main to a 370,000 gallon in-ground reservoir located adjacent to the present-day airport and treatment plant. From the reservoir a 12-inch watermain gravity fed water to the pumping station at 7th Avenue; river water was still used to drive the pumps.

In the 1923, an additional property to the north being Part Lot 29 Concession 4, NDR (65 acre) was expropriated. This area was open land and provided access to Ruhl Lake from Concession 4, NDR.

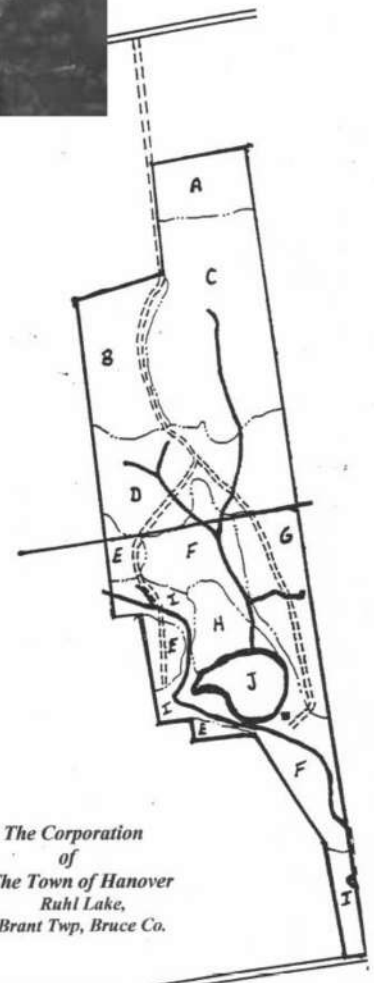
In 1925, some rougher ground was planted in trees by the Department of Lands & Forests. In the late 1920's, Britton Ashbury planted pine trees on approximately 85 acres of the 110 acres owned by the Town of Hanover. This would control runoff from adjacent properties to Ruhl Lake. Department of Lands and Forests annual reports list 45,000 trees planted in 1927, including 20,000 Scot's pine, 17,500 red pine, 7,000 white pine and 1,000 cedars. In 1928 another 35,500 were planted. In 1935 4,000 more were planted on 3 acres.

In the 1940's, the woodlot first thinned with material sold to the Knechtel Furniture Co, Ltd. for strapping and crating. There are no other records (known to me) of harvest until 1991. In that year, pine trees were removed for construction of a log home.



2010 Swoop
1966 L&F
1998 sketch Lands & Forests
Consulting

Comp No.	Compartment Description	Acres
A	Scots Pine Plantation	8
B	Scots Pine Plantation	8
C	Red/Scots Pine Plantation	25
E	Mixed Pine Plantation	9
G	Red/Scots Pine Plantation	10
Total:		60 Acres



In 1998 Lands & Forests Consulting completed a Forest Management Plan for the property.

The following is a description of harvests since that time.

September 1998 - marked pine areas (60 acres)

- In 2000 conifer harvested by Penguin Poles (paid \$23,150.00) for 475 sawlog trees (37,545 fbm) and 1,304 cordwood trees (180 full cord) and 338 hydro poles.

May 1999 - an improvement marking for fuelwood; harvested in 2000

- 18 acres with 524 fuelwood trees for 61 full cord;
- estimated value \$20.00/cord=\$1,220.00

August 2006 - marked 60 acres of pine for an improvement harvest

- red pine, white pine, Scots pine, white spruce, Norway spruce, white cedar
- marked 1,624 trees for 456 full cord and sold for \$22,000.00 to Moggie Valley Timber

2008 - Marked 18 acres of hardwood sawlogs and firewood trees (~33,000 fbm), for an improvement harvest by Bester Forest Products

- 224 sawlog trees and 548 fuelwood trees (paid \$23,700.00)

2012 - marked 38 acres of red pine and Scots pine for a final plantation harvest and conversion to hardwoods

- 220 cords for \$12,000.00 and harvested by Moggie Valley Timber
- woodlot was FSC Certified

2014-15 - proposed improvement marking-targeting white ash logs and firewood trees.



85 acres of woodland protects Hanover's water supply. Established 1927. Picture from early 1950's. This photo is looking at the north west

Oak tree at St. Francis Xavier Roman Catholic Church, Carlsruhe

The first European settlers came to the area now known as Carlsruhe in the 1850's. They were mostly Roman Catholic with a few Lutheran and almost all German speaking. By 1856 a Baptismal Registry had been established, property for the church site purchased, and a frame church, dedicated to St. Francis Xavier had been built.

In 1866 Carlsruhe was made an independent parish with the appointment of a resident pastor, Fr. Francis Xavier Rassaerts. Fr. Rassaerts was born in Roermund, Holland in 1833. He was from an affluent family and must have had vision. When he arrived in Carlsruhe in 1864, he had with him plans for a new brick church that were based on the design of the Munster Kerk in his hometown. Construction of the new church by the local pioneers took two years, and cost \$9,000. It is made of yellow brick that was manufactured locally. Fr. Rassaerts made at least one return trip to Holland to obtain 38 stained glass windows, including the three beautiful rosette windows that still adorn the church. He also raised additional funds for the completion of the church. The Altar was carved by Nicolas and Walter Durrer, local farmers and carvers who have made several altars in churches in the area.



A more personal legacy is the 150-year-old oak tree which stands between the church and rectory. Fr. Rassaerts grew it from an acorn he brought with him in his pocket when he came from Holland. It is said there were a few attempts by priests to cut down this tree, but the residents of Carlsruhe would not permit it. In 2023 the diameter was 151 cm.

Sulphur Springs Conservation Area

The Sulphur Spring Conservation Area is located approximately 5 kilometers (3 mi) south of the Town of Hanover, in the geographic township of Normanby Con 18, Lot 4, part Lot 5. This beautiful 212.5 acre property is situated very close to the center of the Saugeen River Watershed. This sanctuary was created from the generosity of one man, A.J. Metzger. Mr. Metzger enjoyed nature and had a dream to create an area where others would have the opportunity to share what he appreciated. He created this area in its entirety and the original acreage that was purchased was considered wetland.

In the 1920's and 30's, Mr. Metzger directed the digging, by hand, horse and scrapers, of a network of streams and ponds to support the activities of nature appreciation and a fish hatchery. While digging the ponds much gravel was removed, islands were created, the internal roads were graveled, and gravel was hauled for area roadways. There was a cottage on one of the islands.

Also present were a brick house, brick refrigerator building, barn, and bird pens. As the depression caused many people to be desperate for work and labour was cheap, the creekbanks were riprapped and trout habitats were created. A park was established and all were invited to enjoy the opportunities provided by this haven.

The Authority purchased the original cottage portion of the property in 1969. Following the acquisition, the cottage was converted into the Authority's office, the refrigerator building was transformed into a workshop, the barn was used for storage, birds were kept in the bird pens, and the house was maintained as a dwelling unit. The cottage was the first office that the Authority owned, prior to this time the Authority rented.

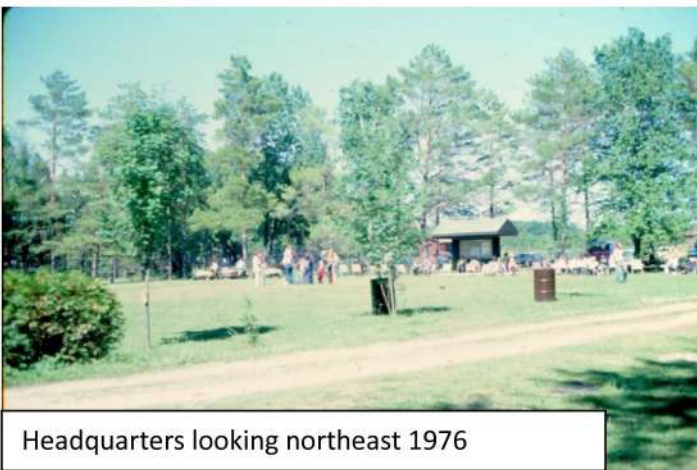


L&F 1952 and Swoop 2020

The Authority continued to acquire property attached to the original purchase area and eventually built an office building in the early 1970's. This office building served as the Headquarters of SVCA for over thirty years. When it was determined that the building was no longer large enough to house the Authority staff, staff proposed an addition to the building. The Board at the time decided to move the office of the Authority to the Village of Formosa. When the office was relocated, it no longer seemed rational to maintain the 'Headquarters' name at the conservation area.

In the early 2000's the former cottage/office burnt to the ground. In the late 2010's, the bird pens were removed. The trout ponds have been maintained, the wildlife enclosure is no longer serving its purpose and will be removed. The trail system has been modified and maintained.

Besides the pond and wildlife, the property is famous for its namesake Sulphur Springs. The springs are an amazing sight. It is a continuously bubbling, churning dark hole with algae that is white to silver in colour. The algae is constantly swaying like feathers in the spring, and it has a bluish hue along its walls. It is said that enough water flows out of the spring to fill 27 bathtubs per minute and that it maintains a constant temperature of 9° C. In the 2000's, a tectonic plate shift resulted in the creation of another spring. This new spring released significantly more water than what had been present. Alas, the presence of sulphur in this water was the downfall of Mr. Metzger's hopes to create a fish hatchery. While trout that are larger than fingerlings can survive in the sulphur, younger hatchlings cannot. Despite this downfall, the Sulphur Spring Conservation Area remains a beautiful retreat visited by both locals and visitors alike, thanks to the vision of A. J. Metzger. (Donna Lacey)



Headquarters looking northeast 1976



Headquarters looking east 1976

Alvin J. Metzger (1894-1976)

Alvin Metzger's great grandfather came from Germany and cleared land just west of the Karlsruhe village. AJ, as he was commonly referred to, was born in Bentinck Township. During his life, Metzger hard work and determination resulted in an incredible list of accomplishments both in business and in public service.

Metzger was in turn, farm boy, cutting cedars, working in a shingle mill, butcher and slaughterhouse operator, trapper and raising fox for fur, selling the butcher shop, going out West for harvest and returning with two carloads of cattle for consignment, and in 1924 purchasing both Wm. Knechtel Milling (now P&H Milling and New Life Mills) and the present Saugeen Conservation property.

He served many years on Hanover Council and mayor of Hanover for a record eight terms. He was president of Allen Brothers Hosiery and director other flour mills; on numerous boards and service clubs. At the time of his death, he was president of Hanover Kitchens (Canada) Ltd. He has earned the rare and honoured title of “Town Father”.



Bibilography

Dufferin and Grey Counties Forestry Field Day. Programme and Tour. Edited by A. H. Richardson. July 19 1939.

Farmer's Advocate. Grey Inaugurated a New County Forest. October 13, 1938.

While We Still Remember: A History of Egremont Township, 1840-1983.

Establishment of Camp Oliver. Annual Report to Grey County Forests. March 31, 1968

Your Forests. Ministry of Natural Resources. 1977 Vol .10 No. 2 and 3.

Normanby Reflections , A History of Normanby Township. Vol. 1., 1989.

Knechtel documents sourced from Hanover Public Library. Sept 2023.

Lands & Forest Consulting. Ruhl Lake property, forest harvest history.

Town of Hanover Ruhl Lake pamphlets.

Kitchener-Waterloo Record newspaper article from 1950. Reproduced in Normanby Reflections Volume I. A History of Normanby Township. 1989.

Moments from Memory A Treasury of Hanover, Souvenir Book 1981 Hanover Public Library AJ Metzger

Sylva Recap

The Ontario Department of Lands and Forests for many years published 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.

Ontario's Water Resource Its conservation and its control by John Macartney Reprinted from Sylva Volume 10 (3): 7-16

Here, we experience extremes of temperature, sudden thaws, violent thunderstorms with heavy, destructive raindrops, and periods of hot, dry weather. These phenomena make water control not a luxury but a necessity for us.

Next to the air he breaths, water is the most essential element used by man. It is important to him physically and to every phase of his domestic and social life. It is indispensable to the growth of plant and animal life. It is the most efficient medium for the transfer of energy and heat. It provides cheap transportation, carrying great cargoes long distances on its surface, making possible the world's trade and commerce. Water dilutes and disposes of most manmade wastes and helps maintain sanitation. Its uses are of infinite



K. M. ANDRESEN

Unless preventive measures are taken early, pulp and paper mills can become sources of stream pollution.

C. M. ANDRESEN



A spectacular method of transporting logs overland to avoid loss in severe rapids and falls—the log flume requires a good "head" of water.

variety and its unique properties are constantly exploited for man's use, comfort, relaxation, profit and general well-being.

Because of the variety of uses to which water is put, the divided jurisdiction presently prevailing, and the conflict of interests involved, the Department of Lands and Forests is conducting a thorough examination of the water resource in Ontario and its control. Topography, types of soil, the amount of vegetative cover (particularly tree growth), the gradient of fall in streams and rivers (which have a bearing on the rapidity with which the water travels to the river's mouth), and the various needs causing diversion and use, all must be carefully studied.

Each year, increased revenue has been derived from the natural renewable resources of forests and fish and wildlife - but the value of the water resource has never been fully assessed. At present, direct revenue accruing to the Province from water users yields only six to seven per cent of the department's total income and is confined to two sources: (1) Rentals from water powers under water power leases; (2) fees from licences of occupation of land flooded by water in the

(Continued on page 61)



operation of dams.

In any assessment of the total receipts from water use, however, certain important indirect revenues must be considered. The annual income from sales of commercial fishing and angling licences, for instance, and of Crown Lands for summer cottage and resort sites, is a respectable sum. The facilities afforded by our waterways for travel and water sports attract tourists from far and wide, each of whom contributes to the Provincial economy through hunting and fishing licences, gasoline and other taxes, to provide further indirect revenue.

Primarily, the use of water for domestic purposes transcends other utilization -

the statutes and court judgements generally, give the highest priority to the use of water for sustaining human and animal life, though the volume used for this purpose is relatively small. Industrial operations require water in varying quantities. A single steel mill, for instance, may use up to a half billion gallons daily - enough water to supply the normal requirements of a city of several million people. And the use of water for irrigation in agricultural areas, while not so obvious, is greater than that of industry. In the eastern industrial section of the U.S.A., the use of water by industry is given as 81% of the total consumption. In the western states, irrigation consumes 92% of the water used.

There are many other uses of water, of course, that do not result in consumption yet are of great economic importance. The huge turbines that generate hydro-electric power are turned by water but the water is not withdrawn from use. In countless inland lakes and rivers, commercial and sports fishermen combine to produce substantial contributions to the total economy. Coincidentally, these waters provide boating, swimming - and, in winter, skating - pleasure for millions of people, as well as summer and winter transportation of diverse kinds. In all of which activities the water - or its iced-over surface - is used but not consumed.

From Volume Five of a report to the President of the U.S.A., entitled "Resources for Freedom", we quote a few interesting lines: "Our knowledge of the factors of the supply and utilization of water is pitifully inadequate. We know relatively little of ... the hydrologic cycle whereby the sun extracts 4,300 billion gallons of pure water from the oceans and distributes it over the land mass of the U.S.A. We know too little of the physical factors by which the sun's energy transforms salty ocean water into fresh vapour. We know only the barest details of the routes these vapours take in their complex travels over the earth. We only vaguely understand the process by which moisture condenses and bombards the earth with rainfall.



M. D. KIRK

Man complicated water control by stripping the land by unwise logging and fire—leaving it non-absorptive—a cause of erosion and flooding

(Continued from page 61)

A variety of ducks wintering in Humber Bay, at Toronto. Large numbers of waterfowl are destroyed annually in Great Lakes waters—in the St. Lawrence, Niagara and St. Clair Rivers, particularly—by oil-laden sludge discharged from tankers and oil-burning freighters.
E. G. HUNTER



"The remaining elements of the cycle are equally little known in spite of our scientific achievements. There is more to be learned that has been learned in many centuries about infiltration of water into the earth, surface run-off, vegetative transpiration, erosion, sedimentation, recharge and discharge, salt water intrusion into lakes and aquifers, chemical changes, and other physical processes affecting our water supply."

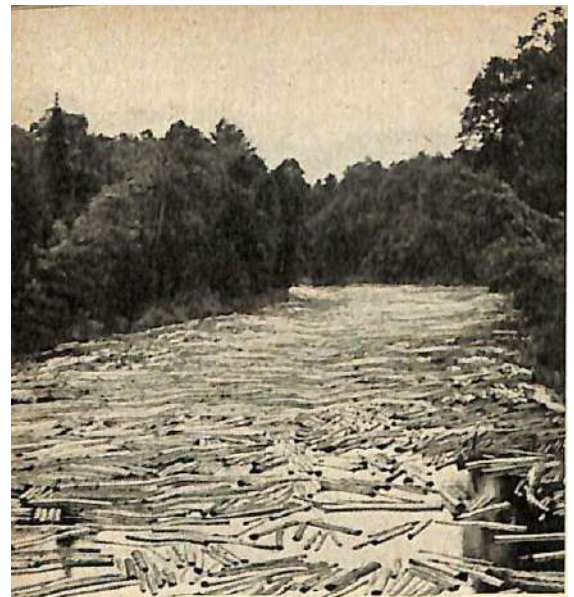
Ontario's lakes, rivers and streams occupy about 1/5th of the Province's total area. Under the British North America Act, the Dominion

Government holds the exclusive jurisdiction over navigation, shipping and navigable waters. In dealing with problems of water use, therefore, regard must be had to respective rights of the Dominion of the Province.

Title to the bed of navigable bodies of water is always subordinate to the public right of navigation. The powers of the Minister of Lands and Forests under the Public Lands Act is subject to the condition that there will be no interference with navigation. The Lakes and Rivers Act (R.S.O.) provides for the erection of dams and the floating of timber. The Navigable Waters Protection Act, a federal statute administered by the Department of Transport (Canada), provides that any person erecting works in a navigable body of water must obtain the approval of this Department. Before such approval can be given, however, the applicant must provide evidence to the Transport Department that Ontario will issue a Licence of Occupation covering the use of the stream bed. Thus, in erecting dams or other works in navigable waters where the bed of such waters must be considered, two jurisdictions became involved in the granting of rights.

Prior to 1906, it was considered that the title to the bed of any navigable body of water in the Province belonged to the people of the Province, but this assumption was rudely suppressed by a decision handed down by the Appeal Court that year. A lower Court had held that title to the bed was vested in the Crown (Ontario), but the Court of Appeal decided that the title to each of the owners of the banks - the riparian proprietors - extended to the middle thread of the river.

This influenced the Ontario Government to pass the Beds of Navigable Waters Act in 1911, which clarified the situation, abrogated the common law in respect of title to the beds of navigable, non-tidal waters, and thus returned title to the beds to the Crown for the Province, in absence of any express grants of the beds. This automatically gave the Province jurisdiction over water powers, a most important accession in these days of expanding industrial development



R. ROBINSON

Sometimes logs fill streams from bank to bank, preventing the passage of those recreation bound.

(Continued on page 63)



K. M. ANDRESEN

Hydro-electric installations like this depend on a consistent supply of water.

and increased use of water for power purposes.

However, though title to the beds of navigable waters was thus properly established as Provincial property, riparian owners, whose land abutted the waters, retained certain rights and responsibilities as to use. They have a proprietary right to have the waters flow to them in natural, normal state but, if they use the waters for irrigation, they must maintain the natural flow of waters undiminished in volume and unaltered in character.

The use of Ontario's waters for power, driving timber, constructing dams to facilitate the floating of timber or as a means of regulating water levels; the administration and protection of forest and fish and wildlife resources; and the management of recreational areas; all are controlled by the Department of Lands and Forests - all being integral parts of the whole picture of natural renewable resources administration.

The protection, control and wise use of the water resource in Ontario, however, is complicated by three major factors: diversity of use; conflict of interests involved; and lack of complete authority to cover all phases of the situation.

There are many uses for water, such as heavy withdrawals for municipal, domestic, industrial and irrigation purposes, which are absolutely essential but over which control is either involved or lacking.

A study of the situation reveals that the use of water for so many diverse purposes by so many differing interests has reached the point where some conflict obtains, because of alleged damage through prevailing uses. Yet, where the rights of competing interests are involved, the use of water for the particular purpose complained of may be statutory, and perfectly legal. The Lakes and Rivers Improvement Act, for instance, reiterates the old established right of everyone to float timber - but this right to float timber may be interrupted at times when water levels are reduced by power developments operating under the Water Powers Regulation Act. In turn, the floating of timber may interfere with recreational use; the use of waters for disposing of industrial and/or municipal waste may prove detrimental to fish and other aquatic life; the use of lakes and rivers for sewage disposal menaces health and recreation; and land irrigation, in many cases an essential part of good farming, can and often does lower water levels and so affects fishing.

Thus do the problems of rights and priorities, and behind it all the interests of the people of Ontario as a whole, make the

Most beaver dams benefit wildlife habitat—but beaver unwittingly flood man's highways by damming streams in the "wrong" places; they are removed alive and the dams destroyed.

R. ROBINSON



(Continued on page 64)

(Continued from page 63)



R. ROBINSON

Fish from clean waters are big, strong, healthy—and profitable for inland lake fishermen . . .

job of water control a most difficult task. Associated with the industrial and municipal use of waters, for instance, is pollution - an ever-present and growing administrative nightmare - the most serious phase of which is man-made contamination of waters by raw sewage, food processing wastes and the release of alkalies or acids by mines and industrial plants.

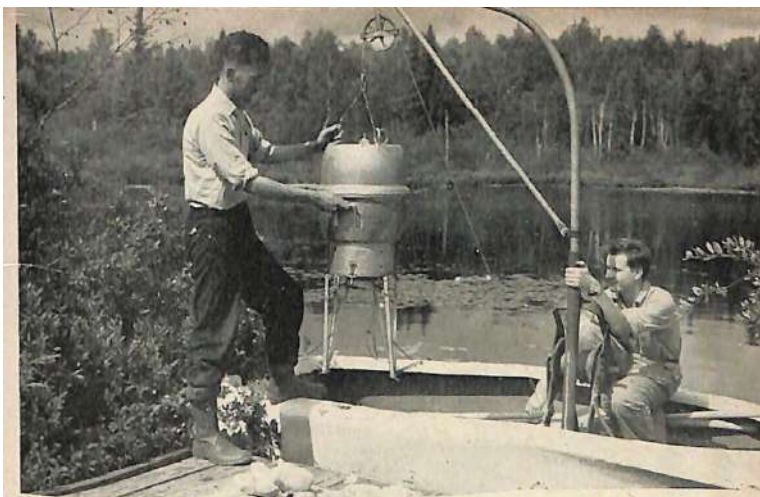
So far, the Department of Lands and Forests has been signally successful in its efforts to determine the causes of pollution in

but in streams used as open sewers, this can happen—thousands of fish killed by pollution.
D. N. OMAND



waters so affected, and has secured remedial measures in some waters so affected through the co-operation of those responsible for the conditions, even though, in many cases, large expenditures were required for disposal installations.

"The United States", the President's report states, "has reached the point where the cost imposed on its economy by using streams and rivers as open sewers may exceed the apparent savings. Many downstream communities are forced to pay out large sums of money to purify water or develop



R. ROBINSON

A laboratory maintained by the Department at Opeongo Lake is obtaining much new information on water. These scientists are sampling plankton.

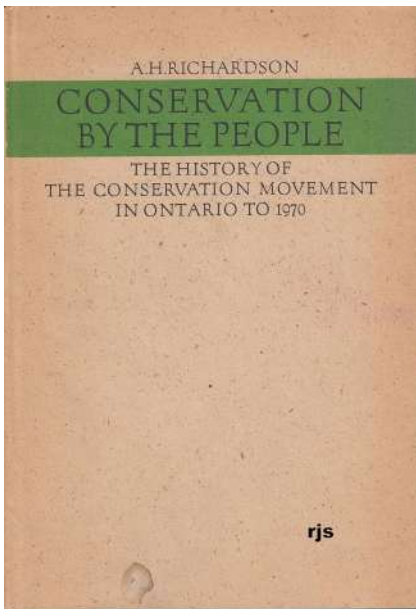


In timber country, dams must have extra sluiceways to permit the logs to pass through; in fishing waters, provision must be made for the free movement of fish up and down stream.
AIR SURVEY PHOTO

alternate supplies, sometimes from distant sources. Valuable wildlife and recreational assets are destroyed and public health menaced."

Such is the handwriting on the wall for Ontario to ponder.

Conservation by the People



Conservation by the People
Arthur Herbert Richardson
University of Toronto Press, Toronto, 1974

Precis of Chapter 2: The Roots Sink Deeply **By Sherry Hambly**

Premier George Drew was very aware of and interested in conservation issues within the province of Ontario. He established a new ministry called the Department of Planning and Development in 1944 to address several pressing issues including those of conservation. He outlined his reasons in a speech he gave in November of 1946 at the convention of conservation in Toronto. His primary message was that planning and implementing conservation work was vitally important at both the provincial and local levels of government.

Dana Porter, MLA from Toronto, was designated as the minister for this new department. He and a new director, Dr. George B. Langford of the University of Toronto, spent time that summer visiting the Tennessee Valley Authority. The main concept gained from that experience was that all natural resources must be treated as a combined resource.

At this time the Ontario government also moved forward in the area of conservation by establishing the Ganaraska Conservation Authority, as well as two committees: a rural committee and a natural resources research committee, the latter having members who had attended the Guelph conference in 1941.

In the fall of 1944, the government held another conference (called River Valley Development in Southern Ontario) in London, organized by the research committee, to affirm their intended plan for conservation. Attendees included members of municipalities, the provincial government, conservation organizations and educators. Two hundred and fifty people attended the conference. They were asked to discuss the various types of work needed in the area of conservation.

Minister Dana Porter opened the conference by commenting that various types of work were needed in flood control, including projects on reforestation, drainage, agricultural methods and public works projects; and these projects must be carried out with full cooperation between the technical parties and the local people. Many different topics were presented and discussed by both Canadian and US experts. The Ganaraska Report was released as well. One of the compelling speakers of the conference noted that vision is needed to accomplish the goal of conservation that would ameliorate current pressing ecological issues, particularly severe flooding.

Two resolutions were passed at the conference:

- 1) that an overarching conservation authority body be established within the government to ensure cooperation and coordination of all entities involved in conservation projects; and that all renewable resources (water, soil, crops, forest, fish and wildlife) of Ontario be considered as part of a whole and not individually in all aspects of conservation.
- 2) that the government begin immediately an inventory of ground water supplies in conjunction with the Geological Survey of Canada.

The conference was considered to be a resounding success, and other areas of the province asked for similar events to occur throughout the province. Dr. Richardson was asked to move from his

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position in Lands and Forests to become head of the new conservation branch. Subsequently, a task force spent a week in the late fall of 1944 at the Muskingum reserve in the United States to gain insight into a successful conservation program.

The new department promptly developed legislation for a *Conservation Authorities Act*. It was to be presented to the legislature in 1945, but political issues caused the legislature to be dissolved. The legislation was eventually passed in 1946. The key components of the bill included the following:

- local people must initiate an authority
- the autonomy of the authority will be inviolate
- individual authorities will design their own plans within the framework of the legislation
- an authority can expropriate land
- authorities are responsible for managing their own organizations, re hiring, project management etc.
- authorities will cooperate with and receive assistance from various government agencies
- authorities will be funded through local taxes and grants from the government.

From an initial amount of approximately \$100,000, the budget of the branch grew to 16 plus million dollars (mostly grants to local authorities) by 1970. The initial technical staff included Dr. A.H. Richardson, A.S.L. Barnes (forestry), C.E. Bush (engineering), L. Laking (land use), V.B. Blake (history), H.J. Christian (accounting), Professor G. Ross Lord (hydraulics), J. W. Murray (hydraulics), K.M. Mayall (wildlife and recreation), H.F. Crown (extension) and Professor F.D. Ide (fish culture).

After each authority was created a conservation survey was undertaken. The survey for the Thames River area was done before an authority was formed due to high local interest. Although flooding was the key issue of consideration, complementary problems in land use, forestry, wildlife and recreation were to be assessed as well. The ensuing report was completed in 1945 and given wide coverage across the province. Also, in 1945 a ground water survey was conducted across Southern Ontario by Iowa State University Professor C.S. Gwynne. The final report was 87 pages long and contained nine recommendations, the most important one being "The need for the establishment of a permanent organization devoted to ground water work in Southern Ontario".

After the *Conservation Authorities Act* was passed in 1946 the first authorities to be established were Etobicoke and Ausable, both of which had pressing flood control issues. Ten authorities were established in the first three years after the legislation was passed, some of which took more work than others to be created.

Book Review

Dark Days at Noon: The Future of Fire **Edward Struzik**

McGill/Queens University Press, 2022

291 pages.

Reviewed by John Bacher

What makes *Dark Days at Noon* so compelling are the spectacular images which hammer home its message. To describe our continent before the invention of photography there are beautiful paintings by artists such as Paul Kane and George Catlin, who revered the fire respecting ways of Native Americans. Dramatic paintings of incidents such as people struggling for their lives in the doomed city of Peshtigo Lake Michigan waters in 1870, are interspersed with carefully coordinated photographs.

The most moving photographic juxtaposition is found on pages 58 and 59. On page 58 there is a grim black and white photo of a hastily dug graveyard in 1911, of the some of the 71 victims of the Great Porcupine Fire. On the next page there is an absurd ad by the Ontario government's "colonization" division. It has nonsensical claims about the agricultural potential that deluded the victims of the Porcupine Fire. This was that the thin soils of the region had "magnificent agricultural potential" based on "rich agricultural land", possessing a "a territory that for richness of soil is equal to any other part of Canada."

The problems of fires associated with colonizers burning trees to clear un-arable land helped give rise to the forestry profession and scientific management of Crown Land under their control throughout North America. The political clashes over this struggle described in *Darkness at Noon* cause pessimism regarding the far more complex contemporary challenges to fire management brought about by anthropogenic climate change.

Nowhere on the continent was the suppression of burning to clear farmland as difficult to achieve as in Ontario. Disasters such as the Great Carlton Fire came close to incinerating the national capital of Ottawa. It was rescued only by its fire department's last-minute decision to "open the St. Louis Dam at Dow Lake to flood the streets."

Struzik shows how the key goal of the emerging forestry profession in Ontario, control over settlers' fires in the Canadian Shield region, would not be achieved until 1940. He highlights public debates with the eventually deposed Minister of Lands and Forests Peter Heenan. These took place before a committee of inquiry of the Ontario legislature. They were aired between Heenan and the past chair of the southern Ontario Chapter of the Canadian Society of Forest Engineers, John Irwin.

Irwin was able to expose the Dance disaster's origins soon after it took place. The fire caused 17 deaths and destroyed 60 homes. This last fatal disaster in Ontario's woodlands in the Rainy River district became the focus of Irwin's testimony to a legislative inquiry. Irwin demonstrated how the removal of the Rainy River region "from fire protection" had been done for catastrophe-inducing "cost-cutting reasons."

Struzik's spectacular account which demolishes mainstream ecologically illiterate historical writing could have been improved had he explored the historical context with Europe. He has nothing to say about how forestry emerged as a profession in Europe.

Dark Days at Noon is sparse in describing how forestry was eventually, with considerable difficulty, exported to Canada and the United States. It emerged in Europe from different approaches in

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Germany, (then politically fragmented), and France in the Middle Ages. Germans tended to be more linear in their approach, the French more naturalistic, their ideal being what was termed "forest gardening." Those of the border region of the Rhine River tended to mix these approaches.

Conservationist forestry has deep roots in Europe, and a history full of debate and controversy before it began to consolidate in the parliamentary monarchy of France in the 1820s. University level forestry courses began to be taught in Germany in the 18th century. Earlier, the great French public servant, Jean Baptiste Colbert, had consolidated the various regional statutes into a single national Forestry Code.

Struzik properly acknowledges the two towering figures in the export of forestry as a profession from Europe to North America. These were Gifford Pinchot, the founder of the US Forest Service and Benard Fernow, the first Dean of Forestry at the University of Toronto. During the 19th century they worked together in the American Bureau of Forestry, a public education predecessor of the Forest Service.

The unusual background to how Pinchot and Fernow exported forestry from Europe to North America illustrates the challenging ways that the continent was rescued from the fires of railways and settlers. Pinchot studied forestry in Europe and was especially impressed how it was carried out in democratic Switzerland. Fernow only decided to export forestry to North America because of his rich uncle's opposition to his marriage. His uncle had hoped that Fernow would serve as the guardian of his wooded estate.

Another unusual forest saving foreign influence was Franklin Roosevelt's youthful trip to Europe triggered by his father's illness. He was stunned to learn from cycling around the German health resort community, that the town did not have to impose municipal taxes because of revenues from its sustainably managed forests.

Struzik acknowledges how Fernow "recruited James H. White, the first forester to graduate from the University of Toronto, to take on the job of Chief Forester at the Commission of Conservation." The dramatic ups and downs of White's subsequent career are, however, not explored. The most notable omission is the termination of the Commission by the hostility of a two term Canadian Prime Minister, Arthur Meighen.

While critical of some foresters, notably Pinchot for ignoring the fire using techniques of Native peoples, Struzik acknowledges how wildlife biologists on the continent eventually caused controlled fire to become an accepted tool of forest management. He explains how controlled burns first became accepted as a management tool for the Everglades in 1957 by the US National Parks Service, to prevent the "extinction of scrub pine and other pine-related plants." Through an inquiry headed by A. Starker Leopold, this became accepted throughout the US Park Service by 1972 and the US Forest Service by 1978. Canada followed these initiatives.

Struzik sees 2003 as being the turning point when anthropogenic climate change became the critical factor in triggering renewed massive forest fires in North America. He describes the impact of such fires in destroying soil as being as horrific as those set by settlers turning lands into bare rock so vividly described in the writings of White and Fernow. Such catastrophic fires, he warns, unlike those of the recent past such as the Yellowstone fire of 1998, ignited through too heavy fuel stocks, "burn so hot and deeply into the duff that there are not enough seeds or nutrients to regenerate."

One of the most revealing aspects of *Dark Days at Noon*, is its description of policy debates within the Canadian government since climate change became the key trigger for destructive forest fires in 2003. For over three decades, Struzik has been a Fellow at the Queen's Institute for Energy and Environmental Policy Studies.

Struzik's quotes from Stocks in *Dark Days at Noon* are revealing as to why the federal government took no effective action to combat anthropogenic climate change after the problem had become clear to its climate scientists in 2003. One reason for this inaction he believes is the situation during

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this entire time, where the Canadian Forest Service, once a separate Department, and on other occasions, a Branch of the Department of the Environment, is part of Natural Resources Canada. (NRC). The NRC Department is sadly, "also responsible for energy."

For two decades, Stock has been a pained witness at the NRC debates. In *Dark Days at Noon* he reveals how at NRC staff meetings there was "a fair amount of yelling and screaming...We had some scientists who were highly motivated, who believed strongly in what we're doing to the earth and the atmosphere, and then the policy folks who believed in the economy." Tragically Stock saw that the "energy policy folks prevailed", setting the stage for the burning of a third of the town of Slave Lake in 2011, the evacuation of Fort McMurray in 2016, and the incineration of Lytton, with two deaths, in 2021.

To understand the essentials of Canadian history and the crisis we are now facing, there is no book better than *Dark Days at Noon*. It can only be hoped that the prescriptions in public policy it advocates succeed eventually, as those earlier calls by Canadian foresters such as James White in facing the crisis of the agricultural frontier of their time, eventually did.

In Memoriam — Robert Bugar, R.P.F.

Bob passed away peacefully, with his family at his side at the Southlake Regional Health Centre on Thursday, March 21, 2024, at the age of 91. Beloved husband and best friend of the late Elsie Bugar (nee Hill); loving father of Robert (Daphne) of Richmond Hill, Catherine of Aurora, and Aileen Gail (David) of Mono; devoted Grandpa of Taryn (Nigel) and Keelan; delighted Poppop of great-grandson, Remy; dear brother of the late Edward (Barbara); uncle to the late Eric (Maddalena), Heidi (Peter); and fondly remembered by relatives, his poker buddies (Board of Directors), 5T4 classmates, MNR lunch companions (Chowderheads) and other friends. Born and raised in Toronto, Bob was an accomplished sportsman in his youth, winning numerous awards, and began a 35-year association with Scouts Canada. Scouting introduced Bob to the outdoors and the importance of teamwork, which significantly impacted his future. Wishing to continue this relationship with the environment, Bob graduated from the Faculty of Forestry at the University of Toronto in 1954, worked briefly for McFadden Lumber, and had a long and successful career with the Department of Lands and Forest and the Ministry of Natural Resources, retiring as the Assistant Deputy Minister in 1990. Post-career, Bob was active with the Ontario Professional Foresters Association and the University of Toronto's Faculty of Forestry. He also continued to support the important work of the Ontario Conservation Authority program by serving with the Toronto and Region Conservation Authority Foundation. Bob's long service to these organizations has been recognized publicly by Scouts Canada, the OPFA, Conservation Ontario, and the University of Toronto. Bob admired Indigenous art and culture, was an avid reader with a lifelong passion for history and Canadian politics, travelled to far-off lands to explore on family trips to England, Scotland, Orkney, Belgium, the Baltic and Israel, and travelled solo to Egypt and China. In their retirement, Bob and Elsie were enthusiastic vacationers with a fondness for cruising, hot islands, and particularly, Las Vegas and doting on their grandchildren when not travelling. Bob was loved and respected by many. His energy, humour and loyalty touched all who knew him and he will be missed. As he would say, "It was an excellent journey." The family would like to thank the MACU staff at the Southlake Regional Health Centre for their compassionate and supportive care during Bob's illness. A visitation for Bob will be held Saturday, April 27, 2024, from 11:00 a.m. to 1:00 p.m. at Thompson Funeral Home, 530 Industrial Parkway South, Aurora, ON L4G 6W8, followed by a memorial service at 1:00 p.m. A reception will follow at Thompson Funeral Home. In lieu of flowers, contributions in Bob's memory may be made to a Charity of Your Choice.



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The mission of FHO is:

“To further the knowledge, understanding and preservation of Ontario’s forest history” and accomplish this with the following objectives:

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



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