Forest History Ontario

Forestory

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Attendees at the Hanover Forest History Tour on October 14.

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Request for Content

Do you have an interesting story to tell about some aspect of forest history in Ontario? Or are you prepared to write an article for the newsletter on some aspect of forest history? Do you know of interesting photographs, documents, 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

To seek some inspiration for these remarks, I went back to my Message in the Spring (pretty low bar!) and was reminded of the various weather events that have affected our forests and trees, but still, they endure and thrive. The current global events are much more violent and complex, and while preventable, will have more of an impact on those that live in or near forests than the trees themselves. As we were reminded on our recent (October 14) FHO Field Tour in the Hanover area, we are quite blessed to have such plentiful and accessible 'natural' spaces to escape to and draw strength from.

Our FHO Tour program 2023 started in June with a tour of the St William's area on June 9, 2023. Led by Board member Terry Schwan, R.P.F. (Ret.) (and ably assisted by Board member Dolph Wynia) it was a great success and included visits to landmark forestry work undertaken by forestry giants such as Edmund Zavitz and James White. The tour included visits to the St William's Nursery, Backus Woods and Turkey Point Provincial Park. We published an article in *The Woodlander* magazine of the Ontario Woodlot Association (Issue 112, Fall 2023, pages 58-59 …available for members online on the OWA website) and Terry's well described 23-page tour guide will be available on our website.

We are thrilled to share the news that Board member and past-president Dr Mark Kuhlberg, Professor of History at Laurentian University was awarded the Charles A. Weyerhaeuser Book Award for his recent book, ***Killing Bugs for Business and Beauty: Canada's Aerial War against Forest Pests, 1913–1930.*** This award is made annually to recognize superior scholarship in forest and conservation history and likely the first time the Forest History Society (US) Sept-2023-FHS-Timeline.pdf (foresthistory.org) has awarded this to a Canadian. Its available at all discerning bookstores and on-line at https://www.amazon.ca/Killing-Bugs-Business-Beauty-1913-1930/dp/1487508972.

On October 14 almost 30 avid forest history buffs met at Sulphur Springs Conservation Area to enjoy hot coffee and delicious donuts to start an excellent day visiting fascinating historical sights around the town of Hanover. Organized by Board member Terry Schwan, R.P.F. (Ret.) (his fourth in a series of field tours) we were all supplied with a very well-researched Guide that described, in considerable detail, the history, features and stories for quite a number of sights in the area. Very sincere thanks also goes out to partners that made this possible: Donna Lacey from the Saugeen Valley CA; Jim Eccles, Eccles Forestry Services; Lee Thurston of Grey County and Jim White of the Bruce/Grey Woodlot Association.

The tour followed, in part, a 1939 Forestry Field Tour and started at the property of a Dr. David Jameson, a remarkable man and visionary of the value of forests, particularly in this area of Grey County that was widely cleared in the hopes of establishing a vibrant agriculture economy. John Bacher published an excellent account of this in the Fall, 2014 issue of *Forestory* https://www.ontarioforesthistory.ca/media/forestory/fhso_journ_vol_05_iss_2_fall_2014_v7.pdf.

Forest History Ontario

Details of all the sights visited will be available soon in a very well researched guide drafted by Terry. I must add that this area is Terry's original neighbourhood, having been born and raised in Hanover. We were treated with a bus window visit to the old Schwan homestead (his brother

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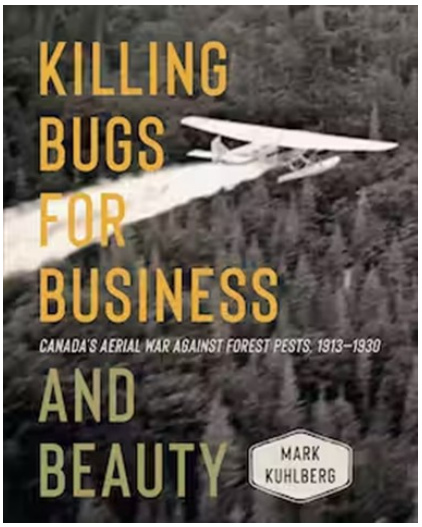
FHS Book Award Goes to Mark Kuhlberg



Mark Kuhlberg has won FHS's (Forest History Society) **Charles A. Weyerhaeuser Book Award** for *Killing Bugs for Business and Beauty: Canada's Aerial War against Forest Pests, 1913–1930*. The award honors scholars publishing noteworthy books in the fields of forest and conservation history.

Published by the University of Toronto Press, ***Killing Bugs for Business and Beauty*** examines the beginning of Canada's aerial war against forest insects, which dates to the early 20th century, and how a tiny handful of officials came to lead the world with a made-in-Canada solution to the problem. According to the press, "The book highlights the shared impulses that often drove both the harvesters and the preservers of trees, and the acute dangers inherent in allowing emotional appeals instead of logic to drive environmental policy-making. It addresses both inter-governmental and intra-governmental relations, as well as pressure politics and lobbying. . . *Killing Bugs for Business and Beauty* clearly demonstrates how class, region, and commercial interest intersected to determine the location and timing of aerial bombings."

When asked about the award, Dr Kuhlberg said.. "This is truly a great honour. It is so gratifying to know that the hard work that went into researching and writing the book has been recognized, and that experts in the field felt that my work was worthy of receiving such a prestigious award. Readers will no doubt notice the lengthy six page acknowledgement section. That's because I had a great deal of help and support from many people over the years, including colleagues at Forest History Ontario, for which I am very grateful".

The Forest History Society is a nonprofit library and archive dedicated to collecting, preserving, and disseminating forest and conservation history for all to use. The Society links the past to the future while reminding us about our important forest heritage. Learn more at www.ForestHistory.org.

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lives there now) and the remains of the family brewery which closed in 1939. The full story was included in a book authored by Terry in 2013: https://bookshelf.ca/product/view/9780991772117

Planning is already underway for our virtual Annual Meeting scheduled for February 15 and our FHO speaker's panel at the Forests Ontario Conference on February 28, 2024. More information will be provided as details develop, but put these dates on your calendar.

We are an entirely volunteer organization and rely on members to organize events, like these, and are very grateful for all their work. For those that are already members, thank you for your support and renewal notices will be out in the next few weeks. For those that have not yet joined, I encourage you to give it a serious look. I should point out to you all that we now have a very prominent "DONATE" button on our website that works very efficiently...give it a try.

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PINUS STROBUS—The Narrative

By: Roger Miller and Fred Holmes

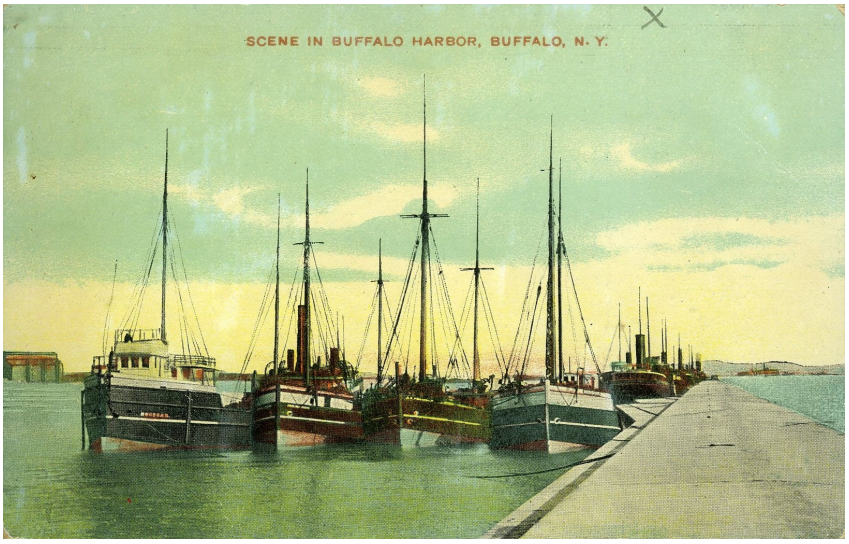
Editor's Note: This is Part 2 of The Narrative. Part 1 appeared in Forestory, Volume 14, Issue 1, Spring, 2023.

Two major political events transformed the industry in the 1890s. The U.S. Dingley Tariff Act imposed a $2.00 per thousand feet tariff on lumber cut in Canada and imported to the U.S., but logs arrived tariff free. The response by the American controlled sawmills in Ontario was swift. Sawmills were shuttered and huge log booms were towed across Lake Huron to Bay City, Saginaw, East Tawas, Oscoda, and other Michigan sawmill sites. Given that most of the lumber of our remaining sawmills had a U.S. destination, the economic impact to the sawmill villages and camps was disastrous.

A load of lumber on the rails

The Ontario government responded in 1898 with *An Act Respecting the Manufacture of Pine Cut on the Crown Domain* effective April 29 and required logs cut after April 30, 1898, to be manufactured in Ontario. This resolved the shuttered sawmills, but they lost production in 1897 and 1898. Logs cut before April 30, 1898, were the winter cut that would come down the rivers in Spring 1898 and be towed to Michigan.

The Ontario response did spur American sawmills to note their depleting Michigan forests and some decided to move their sawmills to Canada. Blind River and Byng Inlet were immediate recipients of these sawmills, followed by Little Current in 1900 and Owen Sound in 1904.



Steamer Mohegan and her consorts at winter berth in Buffalo

The island mills were interesting. The Robinson Huron Treaty was interpretated as the islands being Crown owned. Islands were perceived to be protected from forest fires by being offshore and sawmill sites opened on Aird Island (1864), Mill Island Byng Inlet (1868), John Island (1889), and Port Severn (1850). Schooners servicing the island mills were less reliant on being towed and therefore incurred lower towing charges because the sawmill was already offshore.

These schooners got bigger every decade with the early vessels carrying

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200,000 board feet and later, 400,000 and more board feet per load. Sadly, these vessels were transformed from picturesque, graceful beauties to dull barges being towed by steam barges. Certain steam barges were paired with the same two or three schooner barges so that children watching harbour activity knew which barges should be behind the steam barge. There was so much vessel activity that we wrote an *Addendum to Pinus Strobus* dated 2019 and through its 120 pages captured vessels, volumes of board feet, storm losses, vessel fires and the usual port of call. If a drone was to be flown over Georgian Bay and Lake Huron in the 1880s one would likely see white cotton balls scattered across the blue waters being schooners in full sail. Post 1890s the view would change to black smoke trails from coal burning steam barges towing schooners reduced to barges.

But the mainland got the upper hand when the railways crossed the north shore and were constructed along the east and south coasts. This created opportunities for villages to form at the lumber camps and with it, married employees with families, the preferred employee. Teamsters from farms with horses could gain winter employment in the woods and the lumber camp paid and supplied the oats and hay which for many farmers was a lifeline. Mainland sawmills close to the railway provided producers with a way to get product to market at a time when ice prevented shipments by water. It also validated the towing decisions by the south shore sawmills from Owen Sound through to Waubaushene.

What volume of annual board feet output was sustainable for our sawmills? In the 1880s, at least five million board feet exported was a reasonable number. By the 1900s this had doubled and by 1910 it had tripled. The super producers were exporting 20-40 million board feet annually with Blind River 'supersizing' output at 70 million board feet in 1928. By contrast, the early sawmills of the 1870s were exporting two million board feet annually. Using Buffalo numbers of board feet arriving at their port, the peak was about 1888. Of our mills still in active production, the peak output was reached around 1915 before numbers fell.

The north and east shore sawmills were essentially "camps" when compared to the south shore. Smallpox was one of the scourges that challenged both workers and their on-site managers. Many sites had to construct isolation tents or structures away from the main camp body. The doctors at Webbwood and Massey in 1894 had to conduct smallpox vaccination clinics at Aird Island, Spragge, John Island and Cutler. That outbreak was attributed to Aird Island. At John Island, forty men, all Swedish, and with the language challenge, ran into the woods and had to be rounded up to be vaccinated. By contrast, Byng Inlet built a two-story hospital on an adjacent island, aptly named Hospital Island, a name it still carries.

Picnic Island Sawmill at Little Current

By contrast, two years earlier in February 1892, gripe was reported as bad in Byng Inlet North (Britt), brought in by the men returning from the winter cutting camps. The nature of living conditions in those cutting camps at night was one of very close accommodations with unwashed men, a recipe for illness transmission the news of which made the Barrie newspapers.

One of the concepts uncovered in the research was sawmill rental. Picnic Island at Little Current was rented to Wolverine Lumber Co. from 1907-1913

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Cadge Tote road bridge over Muskoka River

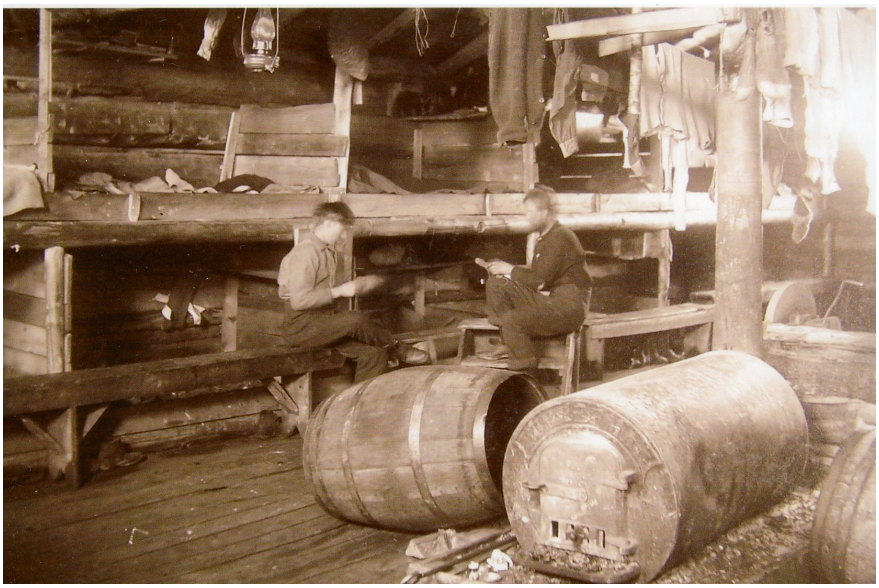
inclusive. In Midland, Manley Chew embraced this approach by cutting other companies' logs as a business model. When the Graves, Bigwood & Co. sawmill burned down in 1912, Bigwood sold his logs to Herman H. Hettler who then towed 20 million feet of logs to Midland to be cut by Manley Chew. The main difference between renting and contract cutting was that the renter had to supply all labour and horses.

In 1913, a hurricane hit the north shore knocking down a substantial number of trees. For the Ontario government to get their stumpage fees, the logs needed to be harvested quickly before insect infestation. The Spanish River Lumber Co. got a contract from the government to take off the fallen trees in five berths in the Mississagi Reserve by April 30, 1915.

Weather also played a significant role at Port Severn, when in August 1896, a hailstorm with lightning ignited the sawmill, store, and storehouse, destroying them. Because the sawmill was not to be rebuilt and the sawmill owner owned all buildings including employee houses, Manley Chew towed 25 surplus houses across the ice to Midland using teams of horses. It must have been quite the sight. I was told by long time residents of Byng Inlet that dragging houses across the ice after the sawmill was closed was common and they identified which ones which I validated against my personal photo collection. Never underestimate the power of horses and human ingenuity!

In November 1893, a big storm broke up a Merrill Ring raft of 90,000 logs and scattered them from Shawanaga to Moose Point along Georgian Bay's east coast. The cost to recover those logs was $15,000.

In August 1906, a 65,000-log raft plugged the Little Current channel for three days due to wind and current. The channel is well known for its wind created currents that caused vessels of the era to be taken either way due to their being underpowered.



Graves-Bigwood Loggers' Cabin

On the lighter side, consider this dilemma. It's 1870 and you, as manager of Dodge & Co., need to bring cattle to Byng Inlet in November for the winter cutting camps. The economical solution was to herd them there. As described in the Northern Advance, *several large droves of fat cattle have recently passed through Orillia* as *those firms prefer driving their cattle to their depots and slaughtering them there*.

The nature of tough men, unscrupulous entrepreneurs and alcohol in a wild west territory served

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Lumber Camp in Northern Ontario

to make some ugly situations. About May 26, 1889, three men drowned under suspicious circumstances on the Spanish River. Intoxicated, two were from Aird Island and the third, a German, from John Island. The German's gold watch was missing, and flasks of whiskey were found on the Aird Island pair who also had head wounds. The reporting newspaper left out many details, but the essence was that the pair with head wounds had been buried along the shoreline and the German was found on a rock about five miles above the outlet of the Spanish River. The investigating detective was shocked to see an eagle feasting on the dead German's body.

At Brennen Harbour in the fall of 1888, F.E. Buswell & Co. lost a Spanish River mill to fire but a week later declared failure with liabilities of $100,000. The Canadian Bank of Commerce, a creditor to about $40,000, suspected fraud and had a warrant sworn out for the principal of F.E. Buswell. The warrant was served at Spanish River at mealtime, so the principal invited the two servers of the warrant to join him, which they did. Using a distraction, the principal stepped out and onto his tug which had steam up and escaped to the U.S. Left behind were about 200 employees who lost their wages of which many had left their accumulated season's pay with the company.

At Thessalon in April 1889, Marks, Dobie & Co., acting as disbursement agents for big timber contractors, failed to pay the men for their winter's work. About 200 men from the cutting camps threatened violence and the Marks, Dobie & Co. general supply store was locked with a senior manager shivering in fear inside. The men did not get paid.

In August 1889, also in Thessalon, a man known as the big Soo came to claim his 28 horses and having seized them, swam them across the St. Mary's River to Michigan. The Pittsburgh newspaper The Sun said, *Canada may have the sawmill, but Michigan has the horses.*

Filing Room at an Unknown Mill

Probably the most famous incident of this sawmill era was the April 1889 stolen mill in which a Michigan mill was loaded at night onto a scow and towed through the spring ice by a tug to John Island where it became an operating mill. The Moiles Bros. were about to be found in default of a mortgage and they ran from Michigan for Canada.

Suspicions flew when the forty-foot vessel *Explorer,* returning to Collins Inlet from Chatham in November 1867 was wrecked at Cove Island with the loss of two crew but Captain Waddell survived. In 1882, the wreck was found, and thirteen two-inch auger holes were found in her bottom along with

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eight to ten tons of stone, but no evidence of cargo.

Accidents were common in this era. One gruesome incident was at Spragge in August 1882. Captain James Anderson was decapitated *when the grips slipped and caught the Captain by the head.* He was the captain of the barge *Benson* in the tow of the tug *Metamora.*

Fighting was likely frequent in these lumber camps, possibly fueled by alcohol purchased from traders passing through. In November 1893 at Collins Inlet two lumbermen got heavily into a quarrel which escalated with one getting his head split open and he died. I lament the Canada Lumberman author for not telling us what then happened.

The sawmill owners always had an eye out for earning money and getting government money was easily a priority, especially when it came to becoming the postmaster of the new mailing address for a new community. If the sawmill was the dominant employer, it commanded the postmaster title. Based on one camp's postal receipts, money orders were dominant as men and boys sent their earnings home to wives and mothers.

Opportunity also begat speculation. Two examples are noted. Joel Underwood started a steam sawmill in Collingwood in 1852, more so in anticipation of the arrival of the railway than to run a sawmill. The 'For Sale' sign on his sawmill in 1856 was a consequence of the railway running well east of his properties and his speculative venture failed.

In French River, Conservative Senator A.B. Foster took four lots in the Town Plot of Coponaning in 1875, cleared three acres, built a substantial wharf, and erected two houses. Why? I suggest speculation as he was involved with a group pitching a railway connecting Lake Nipissing to French River with anticipation of a railway terminus at the mouth of the French River. A post office opened in August 1875 and was closed by summer 1876, the venture having not got off the ground.

Several lumber barons ran for public office at both the federal and provincial level. Albert Dyment of Thessalon was a Liberal M.P. for Algoma and later Algoma East, Robert Adam Lyon of Michael's Bay was a Liberal M.P.P. for Algoma, Simon Dawson of Little Current was first M.P.P. for Algoma, then a Liberal M.P. for Algoma and John Charlton of Collingwood was a Liberal M.P. for Norfolk North. To what extent these appointments were motivated by each man's business interests is not known but is suspected. In his book *A Deo Victoria,* James Angus, PhD., made it clear that A.G.P. Dodge, who successfully ran in the 1872 election becoming the conservative M.P. for York North, did so because he recognized the relationship between politics and business.

Perhaps what is remarkable today is what remains at each of our 24 sawmill locations. There is much still visible, but speed is necessary to photograph what remains before it is gone and replaced with the 21st century. Dock pilings, still standing stone walls, underwater crib works, debris fields, broken pottery in the shallows, iron hooks and rings that once retained log booms, decaying wooden buildings, the sunken vessels at the Musquash River, the bake house at Byng Inlet, the flat fields of Cutler, the still active port of Spragge albeit now a depository of salt and slag, the pilings of the Spanish River booming grounds, the structures at the mouth of the Mississagi River, the tug boilers lying in the shallows at French River, the remains of an alligator in the French River above the rapids, the burnt sawdust still kicking up on the beach at Carolyn Beach Motel, Thessalon, the harbour of Algoma Mills and Blind River, and of course, the Blind River mill and burner. Owen Sound is a good example of the 21st century wiping out all traces of a past sawmilling industry. At least Collingwood and Algoma Mills have some signage reminding people of a past history. I have visited each location over the past 40 years and when I stand and look, my mind visualizes a scene of the past. Oh, how I wish I had taken more photos.

The Struggle to Achieve the Forest Fire Prevention Act of 1917: Critical Turning Point to Conservationist Care of Ontario Forests

By: John Bacher

One of the most important turning points in Ontario history was the passage of the *Forest Fires Prevention Act* of 1917. It was a critical turning point towards conservationist, science-based management of most of the province's land base, composed of forested Crown Lands. Before the passage of the legislation, the dominant attitude towards public woodlands was burn and farm. The assumption was that forests were temporary uses before they could be converted into supposedly more profitable agricultural lands.

The passage of the *Forest Fires Prevention Act* in Ontario was a difficult struggle. Similar measures had earlier been created in most of the forested public lands of the continent in Canada and the United States. Laws which restricted farmers burning public lands were much earlier achieved in other jurisdictions. In the United States this was pioneered through the US Forest Service in 1910. In Western Canada it was imposed by the federal government which still controlled Crown Lands. In Quebec the major change came in 1905 when its first forester-public lands administrators were trained for this purpose at Yale University. [1]

The way forest fire control on Crown Lands in Ontario worked was vividly described by the key author of the *Forest Fires Protection Act*, the Chief Forester of Ontario, Edmund Zavitz, in his memoirs. Writing in 1964, 37 years after the change in forest law, Zavitz recalled how earlier, "There was no permanent fire protection service. The problem was taken care of by two clerks in the Woods and Forest Branch. The licensee of limit holders placed their rangers or agents as fire rangers, the Department having inspectors who carried out inspections." [2]

The system Zavitz reformed had been earlier shaped by two influential public servants, both of whom lacked any university training in the biological sciences. These were two Assistant Commissioners of Crown Lands (a position comparable to a Deputy Minister today). They were Thomas Hall Johnson and Aubrey White. Johnson served as Assistant Commissioner from 1869 until his death in 1887. White became his replacement serving until his death in 1915.

Apart from establishing Algonquin Park in 1893 and, three years later, Forest Reserves, (a tiny percentage of Ontario's commercial forest), there were no serious efforts to restrict farmers and their inevitable use of fires from Crown Lands. While both areas were intended to protect woodlands by excluding farmers and their fires, Forest Reserves, by discouraging tourists and sportsmen to visit, were tougher forest fire prevention zones.

The challenge in combatting notions that the thin soil Canadian Shield region should be excluded from farming continued right up to the passage in the Ontario legislature of the 1917 act. Shortly before its passage, in response to the massive devastation of the Matheson Fire, a cautionary note against using its example to justify new restrictions was penned by an agency of the Ontario government. This was the Northern Development Branch of the Department of Lands, Forests and Mines. It claimed that although the Rainy River Fire of 1897 resulted in 140 deaths it brought about, "one of the best agricultural sections of Northern Ontario." [3]

From 1910 to 1916 three massive forest fires, all of which were sparked primarily by farmers clearing land, created a catastrophic situation. The most intense fires were caused by farmers

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opportunistically taking advantage of periods of intense heat and drought to clear swamp forests resistant to easy cultivation. Intense woods would combine the various infernos into town destroying holocausts. These were the Baudette Rainy River Fire of 1910, the Porcupine Fire of 1911, and the Matheson Fire of 1916. In total, 338 lives were lost. [4]

The farmer-settler lobby from Northern Ontario was increased in power to encourage resistance to Zavitz's reforms by peculiar circumstances which empowered two powerful provincial politicians. These were Frank Cochrane, who served as Minister of Lands, Forests and Mines, and Sir William Hearst, who held this position until becoming Premier after the death of James Whitney in 1914. Although Cochrane lived in Toronto, he had extensive business interests in Northern Ontario, most notably a chain of hardware stores. A lawyer, Hearst represented Sault St. Marie in the Ontario legislature.

Zavitz met with Hearst and tried to convince him that Northern Ontario was not the fertile land he believed it to be. He told him that even south of the French River, the usual demarcation line between the northern and southern parts of the province, there was, because of the Canadian Shield, "a number of non-agricultural areas whose…unfitness for agriculture has been realized." Such lands he told the Premier, "should only be utilized for forest crops." He warned Hearst against "the widespread misunderstanding that the whole country is immediately fit for farming." These delusions ignored "the depth of the peat layer" above the Canadian Shield. This was, however, the very ecosystem which incendiary settlers were determined to burn out. [5]

For the last decade of his life, a critical role in opposing regulations administered by professional foresters to control burning lands for agriculture was played by Aubrey White. This pattern became evident right from the start of the training of foresters for this role with the opening of the Forestry Faculty of the University of Toronto in 1907. As part of the training of students, by the Dean of the Faculty of Forestry, Eduard B. Fernow, and Edmund Zavitz, study sessions were held in Rondeau Provincial Park.

In their studies at Rondeau, attended by forestry students such as James White, the foresters were impressed by surviving old growth giants of the largely vanished Carolinian forests of southern Ontario. These were photographed by Edmund Zavitz, who, to his shock, was asked by Aubrey White's subordinates to mark some for cutting. Fernow protested these plans in a published letter to the editor in the Toronto Globe, and the subsequent uproar caused Aubrey White to back down. Although the foresters had won, Aubrey White retaliated by banning foresters from employment with the Ministry of Lands, Mines and Forests. This persisted until Aubrey White's death in 1915, despite the devastation caused by the Great Porcupine Fire of 1911, which killed seventy-five people. It incinerated the communities of Cochrane, South Porcupine, Pottsville, and damaged Golden City (later named Porcupine) and Porquois Junction. The largest gold mines in Canada were damaged by the inferno, which impacted 4,922,787 hectares of forest. [6]

Had it not been for the federally created Commission of Conservation, achieved by the government of Prime Minister Sir Wilfred Laurier, it is difficult to imagine how law and order could be brought to northern Ontario's frontier. Laurier, a devoted bird watcher, was a determined conservationist. This outlook was shared by his close friend and cabinet colleague, Sir William Mulock. He would later help revive the Commission of Conservation through Men of the Trees, which helped persuade Laurier's heir as Liberal Party Leader, William Lyon Mackenzie King, to launch the Ganaraska Survey in 1944. Although abolished by Conservation critic Arthur Meighen in 1919, during the critical events that led to the passage of the Ontario Fire Prevention Act of 1917, the Commission of Conservation's work was strongly supported by a Conservative Prime Minister, Sir Robert Borden. [7]

Created in 1909, with participation of the provinces, the Commission, understandably, initially shied

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away from controversies involving farmers in Northern Ontario. It got involved in this hornet's nest, only after the Great Porcupine Fire of 1911, primarily because of pressure from Quebec. The provincial government, although spared from the disaster despite identical conditions of heat and drought was disturbed by Ontario's refusal to control both railway and settlers' fires. It viewed them as threats to its own woods and settlements. Quebec had brought its own commercial forest under the control of two Yale university educated foresters, Avila Bedard and Gustave Piche. They imposed fire controls on both railways and settlers. [8]

In 1912 important work in improving fire protection in Ontario was propelled by the Chief Forester of the Commission of Conservation, Clyde Leavitt. A Michigan forester, Leavitt had been encouraged to work for the Commission of Conservation by Fernow, who pulled him away from a teaching career. Leavitt persuaded Borden's government to develop a legislative framework for controlling fires from railways in co-operation with the provinces. As part of this effort Edmund Zavitz, whose duties had been confined to reforestation programs sponsored by the Ontario Agricultural College, (OAC), was made Chief Forester of Ontario.

Zavitz's OAC reforestation activities were transferred to Zavitz's new role as director of the Forest Protection Branch of the Department of Lands, Forests and Mines. He assumed new responsibilities for fire control on railways. These duties involved clearing rights of way of inflammable debris and ensuring that steam engine stacks were screened. The reluctant support of the Ontario government in this role was evident in its exemption of provincially chartered railways from the new regulations. The Timiskaming and Northern Ontario Railway, (TN&O), which passed through the heart of the Clay Belt region recently burned over by the Great Porcupine Fire was exempted. [9]

The period between 1912 and the passage of the *Forest Fire Prevention Act* of 1917 was a five-year drama whose struggle revolved from a cramped Queen's Park office where Zavitz worked with his assistant, James White. The office was described in a supportive way by the Deputy Minister Alan Grigg, who replaced Aubrey White after the foe of forestry's death in 1915. To help Zavitz get better accommodation he explained how "the only office staff that Mr. Zavitz has is one stenographer with her desk located in one of the hallways of the North Wing." This situation Grigg lamented was "altogether inadequate for the work he has", causing the correspondence to be "piling up." [10] Sharing the crowded Queens Park hallway with Zavitz and his stenographer, was James White. From the summer of 1912 to that of 1914 he was paid for his work here through his research work with the Commission of Conservation and from any support he may have received for his doctoral studies in Forestry from the University of Toronto (these were completed in 1919). Fortunately for the saving of northern Ontario's forests from fires, in 1914 he was able to be paid on a full-time basis as the Acting Superintendent under the guise of replacing Frank Newman. Newman volunteered for military service overseas in France and was given a leave of absence. [11]

During the five years leading up to the passage of the *Forest Fires Prevention Act*, White was constantly moving from the hallways of Queen's Park to tour the threatened commercial forest of Northern Ontario. His first foray was in 1912 to examine conditions on two federally chartered railways, which Zavitz had been assigned to develop fire regulations for. These railways were the Canadian Pacific Railway (CPR) and the Algoma Central.

James White toured the CPR mainline for 500 miles from Sudbury to Port Arthur (now part of the City of Thunder Bay). He tried to gather "all possible sources of information." His approach was to get off at the various train stations and get all the information he could from "Crown Timber agents and lumbermen." [12]

One of the CPR stations where James White got out and toured around was Thessalon. Here conditions were what Zavitz would later describe as the "Kirkwood Desert." Here, damage from

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railway fires was compounded by blazes set by settlers' clearing land for farming. This wasteland, later reforested, was north of what later became the Thessalon airport, a mile and a half from the built-up area of the town. The former barren desert became the first afforestation project in Northern Ontario from 1929 to 1950. It became known as the Kirkwood Forest. [13]

James White described a barren corridor of devastation between Thunder Bay and Port Arthur. He took a grim photo of a barren rock wasteland, with a few dead trees in the background. It was published by the Commission of Conservation, through its magazine, "Conservation." For five hundred miles he found that all lands "had been burned at one time or another….except the spruce swamps." In the past these lands had supported tall, valuable white and red pines. These trees had all vanished. Some areas where soil cover survived were still able to support a fragile forest cover. They were not expected to have commercial value for many years, being composed at best, of "partially recovered…temporary stands of popular, white birch or jack pine", in both pure and mixed stands. [14]

James White's investigations revealed that a belt of devastation extended for a width of five to ten miles along the Algoma Central from Sault to Marie to Hearst. Similar belts of ruin crept along "in streaks along the waterways", which crossed Algoma Central. He described the situation as "2,000 miles of desolate wilderness." He lamented that along both the Algoma Central and CPR lines "there is nothing left but bare rock." [15]

In his report published by the Commission of Conservation, James White recommended that Northern Ontario, apart from its urban areas, should be reserved for forests. New farms should be prohibited, and Crown Land no longer alienated for this purpose. He believed that if properly protected, the region's white and red pines would provide a sound basis for enduring prosperity.

James White urged that Northern Ontario be protected as a "reserve for timber growing." He told the Commission of Conservation that "agricultural areas within this territory are practically negligible the land being absolute forest soil." He believed that "if the fire devastation were at once stopped, the future of the region is secure."[16]

James White's published report urged that the existing Temagami and Algoma Forest Reserves be expanded to protect white and red pine from forest fires. He also urged that the more northerly part of the province, now considered as the Boreal Forest ecoregion, be protected as a Northern Timber Reserve. This Northern Reserve would protect from rail and settlers' fires valuable "spruce and jack pine."[17]

Although James White and Zavitz got nowhere with the province on the bold concept of the Northern Reserve (although by the time of White's death in 1957 management of this area by the Department of Lands and Forests would realize his recommendations), from the Queen's Park hallways they had some success in protecting the more southerly great pine region. One success was the expansion of the Algoma Forest Reserve by 3,400 square kilometres. Another was the doubling of the size of Algonquin Provincial Park through an eastern expansion. This rescued one of the largest areas of the province where white pine still remained the dominant canopy tree species. Fire rangers at Algonquin and the Forest Reserves became the core of Zavitiz's Forest Protection Branch. A network of fire towers and telephone lines was established throughout Algonquin Park and the Forest Reserves. [18]

When Algonquin Park was established, the great Canadian painter Tom Thomson was hired as a Fire Ranger. His background was exactly what Zavitz was looking for. Rangers, Zavitz wrote, should be "experienced woodsmen", "energetic" and be "able to deal with the public." [19]

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The railways co-operated well in the removal of inflammable debris along railway rights of way. The Grand Trunk Railway employed a full time Fire Ranger in Algonquin. He was always on duty and "ready to be rushed to any point where rights-of-way fires were to be found." Zavitz was encouraged how "Debris which had lain for many years", along rights of way was cleared away. In Forest Reserves and Algonquin logging slash was cleared away from roads, making fire suppression easier.[20]

James White assembled a team of five fire inspectors responsible for regulating railways. Lignite was banned as a fuel for railways. For railways that still used harder coals, (which had not converted to oil burning), detailed regulations were developed. Steam stacks were required to have nets over them. Coal-ash pans had to be wetted through overflow pipes attached to steam boilers. Railways had to record compliance which was inspected by White's inspectors. [21]

The Canadian corporate elite respected the careful way that White was prodding them to enforce fire regulations. This can be seen in a copy of a letter dated March 9, 1916, written by then then Vice-President of the CPR, Edward Beatty to the Secretary of the Canadian Board of Railway Commissioners, which was forwarded to James White. It praised "Messrs. Zavitz & White the Forestry Officials of Ontario who act as fire inspectors." [22]

Beatty was pleased that the CPR had met requirements "for reporting fires which extend over an area of 100 square feet or more outside the right of way." This he found was challenging since the Section Foremen who wrote many of these reports were "in many cases foreigners who have little command of English." They were however, over "two seasons of constant supervision" familiarized with the fire control regulations. [23]

Beatty's words of encouragement were followed up by a supportive letter from the Chief Forester of British Columbia to James White. Written in the autumn of 1913, James White was commended for perseverance with difficult Ontario politicians. He told James White, "You are getting into their hides in Ontario, and I think that result cannot help but be good." [24]

MacMillan understood that the critical threat to forests in Ontario was the way that outside of Algonquin and Forest Reserves, fire control was organized as a political machine under the command of Aubrey White. In his November 20, 1913, letter to James White, MacMillan explained the tragic situation in Ontario which was on the verge of creating a horrific catastrophe. He detailed how Ontario was "spending enough money to get good fire protection; all they need is to have men a little better distributed, have a permanent, competent supervisory force, and to have the legislation amended and enforced, which controls the settling of fires, so that no fires can be set without a permit in the timbered regions and infractions in the law justly dealt with. This should help Ed Zavitz in getting his work started next year. I sincerely hope you will send the papers when the matter gets into the house." [25]

Zavitz attempted to wake up Ontarians to the risk of another town destroying fire through his 1915 Report of the Forest Protection Branch. It warned that in contrast to the success experienced in curbing railway fires the situation regarding the dangers from settler ignited blazes had not changed. He warned that "no matter how clean" a railway right of way is kept, "it will be a physical impossibility to prevent forest fires when the fire hazards exist just outside the right of way." Zavitz warned that 36 fires had been ignited by settlers in the past year, which were set "in a dangerous season" without control. He complained further that his rangers had no legal right to make charges to stop such burnings. Zavitz, based on White's research, concluded that a catastrophe had only been averted, "owing to the large amount of rainfall." [26]

Tragically, Zavitz's warnings were ignored by legislators and the press. Unfortunately, the former Liberal leader and Premier, who had considerable knowledge of forestry issues, was no longer in the

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Ontario legislature. He had accepted an appointment from Prime Minister Laurier to the Senate. His successor as the Leader of the Opposition, Newton Rowell, had little interest in forestry issues. [27] The co-operation and respect that Zavitz and White had achieved with railway executives and workers helped secure their warnings of imminent disasters from settlers' fires. R. H. Temple an executive of the Canadian Northern Railway on March 10, 1916, warned of "outside causes" such as settlers in fire risks. A railway engineer, Ernest Reid reported on the fire risk from settlers' fires in the hot and dry summer of 1916. He found the air to be thick with smoke and unhealthy to breathe. [28] The Great Matheson Fire erupted on July 29, 1916, from strong winds blowing many settlers fires into a massive inferno. Some 2,548 square kilometers across twenty townships were burnt. The fire's death toll of 224 lives makes it the highest recorded disaster impacting human life in Canadian history. The fire was named after the community of Matheson since the highest death toll, 89 lives, was experienced there. Heavy casualties were also experienced in Monteith, Iroquois Falls and Porquois Junction. The fire was described as a "howling tornado", and church bells were rung by the winds before communities were incinerated. Many survived only through immersing themselves in lakes and streams until the fire passed through their communities. [29]

The Great Matheson Fire did ignite a political storm, but it would be several months before the Ontario government would agree to the reforms that Zavitz and White had long worked for in the Forest Fire Prevention Act. A careful campaign was led by MacMillian, Leavitt, White and Robin Black who was, at the time, President of the Canadian Forestry Association (CFA). They benefitted from the maladroit and provocatively worded written defense of the refusal to change fire regulations by the Minister of Lands and Forests, Howard Ferguson. These were made in a letter to the London Ontario Board of Trade. This was penned by Ferguson to its Secretary, Gordon Philip, on August 9, 1916. [30]

Ferguson initially took the view that fires were common from "carelessness and negligence" even in large urban communities in southern Ontario. He denounced critics who sought legislative change as "discouraging and retarding settlers from going" to the north. In response to White sharing Ferguson's response Leavitt toured the area devastated by the Great Matheson Fire. [31]
In response to Ferguson's letter, Leavitt told White that, "So far as can be judged by the Minister's letter, it does not appear that the Department intends to take favorable action upon the proposal to regulate the setting out of settlers' fire. This only emphasizes the absolute necessity for continuing and strengthening the campaign by the Forestry Association and the Conservation Commission. I would have not thought it possible that the Minister could take so reactionary an attitude with regard to the whole matter of fire protection in the North Country in view of the calamity which has recently occurred. [32]

Over the next month, Leavitt worked closely with Robin Black to document how inefficiency and corruption weakened forest fire protection efforts. Much of Black's CFA members were from the Canadian Bankers Association, which saw the threat of fires as a serious danger to Canada's economy. On September 9, 1916, F. C. Armstrong a CFA member from Nipigon, wrote that he was "sick" of fire crews being selected on the basis of political patronage. A typical employee had his job "just because he took an active part in the last election." [33]

Armstrong wrote that, "There is one thing that I would like very much to be done, and that is to appoint Fire Rangers regardless of the political party they are attached to, for I have seen much of this, and have seen men holding down a Fire Ranger's job and drawing pay, when he is not competent, but was given the job just because he hustled for the Party in the last election." [34] Complaints about patronage and corruption from the banker influenced CFA finally persuaded Ferguson to enact the *Forest Fires Protection Act* three months after the horrific Matheson inferno. The London Board of Trade, which was connected to a powerful political force, the Chair of the Hydro Commission of Ontario, Sir Adam Beck, did not back down. It demanded that the government act to "protect the lives and property of the people of Ontario." [35]

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Zavitz later recalled the dramatic way in which Ferguson's change of heart took place. He was "called in by the Minister to re-organize the fire protection service." Under the new *Forest Fires Protection Act* of 1917, as he recalled, "Rangers in all areas were appointed by the Provincial Forester…The system of burning permits was introduced. Power to order the removal of hazards on private land; power to regulate travel during dangerous periods, power to carry out the Act was placed under the Provincial Forester. Gradually, a permanent Forest Service was established with districts, administered by trained graduate foresters." [36]

Upon the passage of the *Forest Fires Protection Act*, Zavitz sent White out on a year and half mission to organize the new Forest Protection Service. It was based on 32 administrative units, all defined on a watershed basis. The strength of the system was evident over time as the only episodes of human settlements and lives being lost through fire in Ontario came after districts were removed from fire control regulations due to pressure from local settlers. This took place disastrously in Haileybury in 1922, and in Dance (near For Francis), in 1937. [37]

With the new powers under the *Forest Fires Protection A*ct Zavitz had an extensive fire tower, road and telephone line system established, similar to what he had earlier built in Algonquin and the Forest Reserves. After the Haileybury disaster this was complimented by patrols launched through the newly created Ontario Air Service. [38]

One of the most important impacts of placing fire control under the direction of university-trained district foresters, was the gradual training of rangers and other employees in broader topics of ecology and reforestation. Such staff further educated the public through fire prevention programs. [39]

One vivid example of this was the change of life through education in conservation through employment with the Department of Lands and Forests, of a former beaver poacher, Archie Bellamy. He became the noted conservationist writer, Grey Owl, bringing ignored views of professional foresters to a wide audience. A fine example of the effective public education work of District Foresters was Peter McEwen of the Parry Sound District. He created a fire tower as a tourist attraction and began reforestation on formerly barren lands around it. [40]

The *Forest Fires Prevention Act* of 1917 was an important positive turning point in Ontario's history. Land where fire was seen as a means of converting forests to farmland was now viewed as a perpetual forest estate. A public service of ecologically literate administrators became its managers.

Endnotes

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17) Ibid., The success of the ecological recovery in Northern Ontario can be appreciated when it is understood that the former wasteland along the Algoma Central land is now a popular tourist attraction with the Agawa Canyon train excursion.
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23) Copy of Letter from E. W. Beatty to A.D. Cartwright, March 9, 1916, in James Herbert White Papers, University of Toronto Archives, B, 1983-022/09/
24) Ibid.,
25) Letter October 13, 1913, From H.R. MacMillian to JH. White, James White Papers, University of Toronto Archives, B, 1983-0022/009.
26) Letter November 20, 1913, from H.R. MacMillian to James White, James White Papers, University of Toronto Archives, B, 1983-022/09.
27) Edmund Zavitz, "Report of the Forestry Branch, 1914-1915, Ontario Sessional Papers, 1916.
28) Margaret E. Prang, "Newton Rowell," "" Dictionary of Canadian Biography, Vol. 19, University of Laval, University of Toronto Press. Rowell is most famous for his work on the Rowell-Sirois Commission during the great depression of the 1930s, which eventually through federal transfer payments contributed to good national standards in health and education. In contrast forest and related soil conservation issues were ignored by him despite the disastrous dust bowl on the prairies and the Dance fire.
29) Copy of Letter from R.H. Temple to A.D Cartwright, March 10, 1916, in James White Papers, University of Toronto Archives, B 1983-022/9.
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31) Ibid.,
32) Letter from Clyde Leavitt to J.H. White, August 19, 1916, in James White Papers, University of Toronto Archives, B 1983-0229)
33) Copy of Letter to Robin Black to F.C. Armstrong, September 16, 1916, in James White Papers, University of Toronto Archives, B. 19833-0229
34) Ibid.,
35) Correspondence between Howard Ferguson and London Board of Trade, loc.cit. James White Papers.
36) Edmund Zavitz, "Recollections", p. 12.
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Although fired, McEwen subsequently was able to return to employment in the Department of Lands and Forests, as once another victim of the purges of Frederick Noad, Al Barnes. Personal conversation with Dolf Wynia, son in law of Al Barnes. Crosbie describes the backlash against actions of the Crown Timber Agents mobilized by Noad, who were, in response, put under the supervision of university trained District Foresters, whose duties were expanded to include timber management as well as fire control.

The Thunder Bay Forest Station 1944-1986

By: Dolf Wynia

Towards the end of the Second World War, with the appointment of professional foresters to responsible administrative positions throughout Ontario, the demand for reforestation nursery stock in Northern Ontario increased considerably. The farming communities in Northwestern Ontario demanded trees to shelter their farmsteads since they were available to Southern Ontario farmers. Surveys by professional foresters proved that many harvested areas on Crown Land were not regenerating naturally as expected or desired.

Within the Ontario Department of Lands and Forests the influence of professional foresters was beginning to take hold with leaders such as F.A. MacDougall and G.H.U. Bayly as Deputy Ministers. The first graduate forester appointed as regional forester in the Mid Western Region was Peter Addison who, with his farming background, took a great interest in establishing a tree nursery in his region with headquarters in what is now Thunder Bay.

Greatly increased production of nursery stock to be used for restoring wood production on cutover and burned land was needed in Northern Ontario once long-term sustained yield management plans became mandated. The shared cost agreements for forest regeneration with the Federal Government provided a multitude of incentives to boost forest regeneration.

Beginning with the rental of small test plots in 1944, Peter Addison took on the task of locating a suitable tree nursery site and managed to find one with the help of Dr. Angus Hills, an experienced soil scientist associated with the University of Guelph. In May 1946 the final deal was made for 400 acres with a Mr. Marassutti in Paipoonge Township west of Fort William, now Thunder Bay.

Successive nursery superintendents were professional foresters Mark Cressman, R.J. Burgar, Adolf Wynia and Robert Klapratt. Nursery operations ceased by1986 with required nursery stock production contracted out to private entrepreneurs. Currently, in 2023, the facilities are used for storage and office space and the grounds have been converted to seed production orchards, research and public trails.

The selection of a site for a new nursery is a job for experts. A decision is influenced by access to labour and services but mostly the suitability of the soil. Dr. Angus Hills of Guelph University helped in making the decision: There was a stream for irrigation, the land was level and suitable and there was a potential good labour source nearby. The first employee was Joe Jumby who had been clearing up the open land with his horses in 1944.

Buildings on the property were run-down and needed major repairs or replacement. Addison developed a plan and supervised the grounds and compartment development including an irrigation pump set-up. Labour availability was still very limited so soon after World War II.

In 1947 Addison hired some familiar forestry names: students from the University of Toronto, Mark Cressman, Lloyd Eckel and Walter Giles. In 1948 L.C. Pattyson was hired as the nursery clerk. He became foreman the next year, when Pearl Walker became nursery clerk. A dam was built on Pennock Creek, to hold back water for irrigation.

Addison, as regional forester, took a great deal of interest in developing young people. In one incident he even bailed a young man out of jail after he had wrecked a department vehicle on the way back from the local pub.

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In 1949 some 500,000 trees were shipped, including 10,000 black spruce to the Simcoe District. The seasonal labour force had grown to about 20, half of which were women. In 1952 a Gandy seed drill was purchased which greatly speeded up seeding operations as well as allowing more accurate densities. By 1953, most buildings were completed and 1.5 MM trees shipped to a number of Districts across Northern Ontario. More than 500,000 seedlings were transplanted and the production target became 2.0 MM trees.

By 1956 Mark Cressman had become Nursery Superintendent. All of the buildings had been repaired and some new facilities built. In that year, 1.5 MM trees were shipped to private landowners across Northern Ontario. Some experimental plantings of larch and lodgepole pine took place on the nursery grounds at the request of the Research Branch. The production target had risen to 10 MM. trees.

In 1959 the production targets were 3.4 MM white spruce, 2.1 MM jack pine, 2.9 MM black spruce, 0.7 MM red pine and a few minor species. Also, in the winter of 1959 the nursery became involved in the Provincial Tree Improvement Program. This was to be accomplished through the establishment of "Seed Orchards". Scions of trees of proven superiority were to be propagated through grafting on wild root stock and then planted in seed orchards where cross pollination would produce an improved strain of the species.

The scions for grafting were usually collected by field or research staff from the tops of proven superior trees often by means of rifle shots during the coldest time of the year. The grafting took place in February in the greenhouse which had been built at the nursery. In the first year, 1500 trees were grafted.

By 1967, the nursery had become an integral part of Crown Land forest management and it had therefore become more essential for the nursery to produce its targets with respect to quantities and qualities of planting stock.

When I arrived in Thunder Bay, from North Bay, to take up my new position as Superintendent in early January, 1967, I found the sight of the snow blasting in from the west towards my motel room by the airport a bit of a shock: Not quite the kind of place for which I had obtained my degree in tropical agriculture. The residence was a collection of rebuilds, repairs, and restorations, but for the time being at least the furnace was adequate. The rent was reasonable enough, and I was glad to be "close to the action." My salary had been increased by $500 per year.

The Superintendent's house as it welcomed me in the winter of 1967

Facilities at the nursery were limited, and the equipment very old but adequate for the purpose. The staff was experienced, but limited in education. Only the operations manager, "Paddy" Pattison, had technician qualifications. The use of herbicides on tree nurseries was just beginning to be developed, and equipment such as precision seeders existed only in a dream world. The manual work was generally done by seasonal female employees through a strict seniority hiring system. Reliable male workers were very scarce. My secretary was Pearl

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Walker, and she was a gem for information as she had been there since the beginning and she was respected by everyone.

The first major setback that we had in our operations was the condemnation of our shipping barn: It was declared too dangerously decrepit to have a crew of workers do the grading and packing of our shipping stock. Fortunately, the neighboring community of Neebing had just completed a new ice hockey arena and they were willing to rent it to us. I was always worried about the glass entry doors but we never broke one in the three years that we used it. The floor-based cooling was a great asset. At the nursery, the Department of Government Services built us an entirely new building on the headquarters site soon after and now we had cold tree storage, new offices, a lunchroom and a large indoor working area for grading belts and shipping.

One of the assets that the previous superintendent, Mark Cressman, had left at the nursery was a novel and effective multiyear cost accounting and budgeting system which helped me a lot in planning and budgeting. Over the years I developed it further, and when I got the first programmable calculator, I was in my element: I found I could write my own programs to do the cost accounting and budgeting. The calculator was also a tremendous help when assessing research results.

As in North Bay District, Thunder Bay District had embarked on a container nursery stock production system, and there were 14 operating kerosene-heated plastic greenhouses at the nursery, like the ones I had struggled with, producing "containerized seedlings" in expandible plastic 3/8" tubes. Since overtime pay for hired help was not allowed for routine tasks, the closest local resident had been hired to tend the greenhouses on weekends, which added considerable risk of losing entire crops. I took on this task in the spring after arriving and spent a lot of time lighting and extinguishing the fuel oil heaters and raising and lowering roofs every weekend. Our main crop was black spruce; definitely the most difficult nursery crop of the lot.

After the first couple of rather unsuccessful efforts, I started work on designing and building a real greenhouse, heated with natural gas and cooled with automatic fans. I was grateful to my high school teacher who had taught me enough physics that I could do the necessary calculations and deal with manufacturers. I also contracted out part of the crop to a local greenhouse operator, Jim Hodwitz. Moving away from using household vacuum cleaners, we developed our own "seeding line." After several years we started to get results, especially when we switched from the plastic tubes to the "Spencer Lemaire Rootrainers," designed for forest seedlings. Field staff had found that in most Northern Ontario conditions the plastic tubes heaved out of the ground due to frost heaving. The Rootrainers did not suffer as much from this and were also recyclable. Eventually these were replaced by a the more efficient Swedish "Paperpot" system that was adopted by the entire province.

In the meantime, the "bare root" seedling production also needed a lot of development. The bulk of our crop was three-year-old non-transplanted seedlings of black spruce and white spruce. Losses from the low humidity, combined with strong spring winds, were enormous. We had been making up for that by seeding more densely. I discovered that serious losses occurred in the summer on the weekends when workers would come in to do a superficial turn at irrigation. Once we hired forestry summer students who would be scheduled to be there for full working days on weekends and we were able to use a "hydroseeder" to stabilize the seedbeds against summer windstorms, our losses rapidly turned to surpluses, and we had a problem with overly dense beds producing "spaghetti" trees, a term developed by George Marek, a well-known Geraldton forester. The demand for sturdy, compact transplanted stock eventually led to the development of summer transplanting. The three year old stock was an ideal size for most situations, but it required intensive irrigation practices and a great deal more land.

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I nearly always supervised the entire seeding operation personally. I estimate that I walked at least 50 kilometers every spring behind the seeder, always in a cloud of dust.

Our second major cause of massive losses was heavy rains after the ground was frozen. Later, melt water under the ice would lift the trees right out of the ground. Lower density in the beds would actually aggravate that damage. Winter weather was very unpredictable and severe. A comprehensive underground tile drainage system on almost the entire nursery was the solution to that problem.

The kids play hockey on one-year-old white spruce seedbeds.

Three-year-old nursery stock transplanted in summer soon became the favourite stock of the field staff: it was compact in size, but had adequate sturdiness and root development. It meant that our developed land base became totally inadequate, so we purchased an adjacent 60 acres from a neighbouring farmer, Albert Otway, inside the city limits. We also had to expropriate the old "Billy Bishop" airfield to the west of the nursery and develop it for stock production. Fortunately, due to the need for thousands of tons of fill for new sports fields in the city to accommodate the Canada Games, we were able to have the surface development work done for the sum of one dollar. My courses in land development at the college of tropical agriculture in The Netherlands turned out to be very useful. A tile drainage system was also installed with great financial support from the Federal-Provincial agreement funding A.R.D.A funds (Agriculture Rehabilitation and Development Act).

Spring seeding with Alvin Mayo and the old Farmall and Gandy seeder.

First run of the "Hydro Mulching" machine imported from the United States.

At the request of head office supervisors Charlie Lane and later Ken Reese, I chaired a provincial "mechanization" committee, ensuring that our equipment development was coordinated well enough that we could exchange equipment amongst the Ontario nurseries. One of the biggest breakthroughs came when we managed to start using a simple two-row potato digger to lift entire beds of seedlings, using a rented commercial newly developed, powerful "hydrostatically" driven tractor. This greatly reduced the physical effort required to "pull" the trees, and also kept a much greater proportion of the roots intact. I will always remember the

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astonished looks on the faces of the field workers when finally, after at least six years of trying, we had a tractor and digger that worked. Grading of the trees could now also be done indoors using "grading belts".

To reduce the overly dense seed beds, our mechanic Frank Stewart and I developed a hydraulically driven mechanical thinning device, as well as a chemical thinning device. Eventually we helped a Federal Government engineering group and Jim Reid, Operations Manager at the time, develop a six-row tree harvester, based on the flax pulling machine which I had seen operate on my uncle's farm in Holland. Once we had that, we could harvest most of our crop in the fall, store it frozen in sealed bags for the winter, and ship it on demand in the spring. We also found that we could thaw the trees in midwinter, grade them indoors to specifications on our indoor grading belts, and then re-freeze them. This provided winter work and improved the planning options for spring planting operations. Savings to the unemployment insurance funds of the federal government were also very substantial. Research studies indicated a 50% improvement in first year growth performance of black spruce using this system, as compared to trees which were spring lifted, but which had been subject to normal exposure to our winter weather.

Grading and packing in the field into waxed cartons after lifting with the potato digger

Other improvements in our production process were the introduction of "hydro-mulching" to protect the new seedbeds, an entirely new underground irrigation system with electric pumps, and the introduction of precision seeders. In co-operation with Bob Day, a professor at Lakehead University, we developed an operational system of statistically monitoring all our major product shipments for quality. We hired students to measure samples for root area index, diameter, height, and plant moisture stress and they also did regular sample out-plantings in an uncultivated part of the nursery. The two Operations Managers whom I had after "Paddy" left to go to the St. Williams Nursery both contributed greatly to the developments over the years: Dave McNaughton and Jim Reid. They and their families also resided on the nursery.

One morning in the fall of 1975, or a year close to that, we had a rainy day, but work was going on as usual. Alf Orr, one of my technicians, dropped by the office to tell me that the water in our irrigation pond seemed to be rising rather fast and maybe we should pull some logs out of the dam. I was busy with something, but decided to go out and have a look at it after about ten minutes. By the time that I got there, the dam was already under water, and water was shooting under the road, filling the entire culvert. By the time I had blocked the road with my car, half the road had washed away and I could see a full grown poplar tree with the roots on shoot through the culvert. Later, weather records showed that there had been a cloudburst upstream, which had washed out a beaver dam. The surge washed out six more beaver dams on its way downstream and then our dam as well. After us, it took out the Canadian Pacific transcontinental rail line. The following day there was a threat of legal action by the C.P.R., but fortunately our lawyers were able to fend it off. The nursery ended up with a much improved irrigation pond!

Ken Reese, my supervisor at the time, had read in *The Reader's Digest* about a lettuce farmer in Cleveland who operated an air-supported greenhouse. With a major expansion of our container

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stock production on the horizon, we went to visit the operation and found a very progressive farmer indeed. The greenhouse which he used for lettuce production was an acre in size and had no interior supports. Ventilation was adequate, and he had had no snow load problems. He had found that his transplants planted early in the morning did much better than those done later in the day. Hence with an engineering firm he had developed a "tape transplanting system" whereby his workers would transplant all day in controlled conditions into re-useable foam tapes. These would be stored overnight and the seedlings would be mechanically planted early in the next morning in a few minutes. This system offered a solution to another one of our problems: Dealing with the major increase in transplanted stock demanded by our field staff: On our shipping floor space we would be able to transplant indoors, up to 24 hours per day, while running the transplanting machine only when conditions were best. We could also introduce "piece work" in transplanting, whereas before we depended on the speed of the slowest operator of a six person crew. Over the next few years, we developed both his ideas.

Eventually, though, our test air-supported greenhouse was able to produce more than a million seedlings per cycle, it did appear that we should not try to operate during the coldest weather because when the snow melted on the roof, the resulting water would collect in the centre and bring the greenhouse down dangerously low. A minor alteration might have solved the problem but I never got a chance to try.

When I timed our new "tape trans planter", the crew of one tractor driver and one helper planted 14,000 trees in less than two minutes. All of these developments were sold for scrap when the Government closed all the nurseries by about 1990.

Transportation of our products to the field was largely our responsibility. In early times, trees were packed in rolls of jute and the roots kept moist with sphagnum moss. Soon we converted to waxed cartons. These, however, needed external cooling if they were stored for any length of time. This got us into using refrigerated vans. Renting these became a problem as not enough were available locally. In the end, we owned a fleet of more than 12 used refrigerated vans ("reefers") and employed a service mechanic nearly full time. Often, deliveries to planting camps would be a simple exchange of reefer vans. Deliveries and pickups took place 24 hours per day from our new large refrigerated storage rooms. By 1980, we were shipping more than 20 million trees per season.

The six-row tape transplanter showing loaded and unloaded reels.

The biggest improvement in production cost control undoubtedly came from the use of chemical herbicides. After many research projects and tests, we became quite efficient at using them and we started saving hundreds of thousands of dollars annually. The sight of more than 100 workers in the field plucking weeds became a memory. In co-ordination with Ken Reese at head office, we often co-operated with authorities in testing new chemicals to get them registered for use in Canada.

The Ministry, under the leadership of Lou Ringham, Regional

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Director, had a policy of supporting staff at technical meetings of the Canadian Institute of Forestry if they took a leadership role in the local section, which I enjoyed, memorably as chairman of a National Convention and of the local section. As a result, I attended meetings across Canada. The experiences and contacts made helped a lot in advancing our technology. Meetings and contacts with the American Nurserymen were also valuable.

Just as we completed the construction of our new irrigation system, the Ministry of Natural Resources started contracting out the production of containerized seedlings on a provincial scale, locally coached by myself and later my new assistant, John de Witt. The plans for a new-model container seedling production facility for our nursery that Jim Reid and I worked on for several years were abruptly cancelled, even after the boilers had already been loaded on railroad cars in the United States.

My last budget in 1983 was for a target of about 55 million trees, about 22 million of which were bare root, and the rest of which were containerized seedlings in "paperpots." Prices probably fell somewhat later on but I would like to think that we helped make several contractors in Thunder Bay millionaires, although I do not know what happened to them after I left to take over as Superintendent of the St. Williams Forest Station. In any case, at least a quarter of a billion trees left the nursery for a new life in the wilds of Northwestern Ontario while I was there. John became a key player in the restoration of the forests in Northern and Southern Ontario.

The newly appointed superintendent Bob Klapratt was basically tasked with the disposition of the nursery assets. I believe some of the tape transplanting system was bought by a Norfolk County herb producer.

Currently the headquarters facilities on the 25th Sideroad in Paipoonge Township are occupied by the Thunder Bay Work Centre of the Science and Research Branch of the Ontario Ministry of Natural Resources and the Main Office of the Lakehead Forest and Green Mantle Forest Inc. which are responsible for managing the Crown Forests around Thunder Bay. About 50 people currently work at or from the facilities.

The production compartments are gradually being planted up into seed orchards and tree planting experiments such as spacing trials. The roads and trails are popular for hiking and dog walking.

The Rewards of Planting Trees

A forest tour through the St. Williams Conservation Reserve, Turkey Point Provincial Park and Backus Woods.

Friday June 9, 2023

The St. Williams Forest Station was established in 1908 to grow tree seedlings for reforestation purposes and to stop the encroaching blow sands by growing permanent forests. The Turkey Point Forest Station was started in 1927 to grow permanent forest cover on the Charlotteville blow sands. Turkey Point Provincial Park was established in 1958 from the eastern part of the Turkey Point Station. Backus Woods is a spectacular older-growth forest, one of the best remaining examples of Carolinian forest in Canada.

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

Adam Biddle, Supervisor, Forestry, Parks Operations Division, Norfolk County

Audrey Heagy, Project Coordinator St. Williams Conservation Reserve Community Council

Dolf Wynia St. Williams Forestry Station Superintendent 1983 to 1990

Other Contributions to this program include, Jeff Pickersgill, Superintendent, Turkey Point Provincial Park, Altah Arain, McMaster University, Dave Morris, MNRF and Ken Elliott, R.P.F.

This tour is hosted by the Forest History Society of Ontario and made possible by the generous support of our sponsor, Norfolk County.

Norfolk COUNTY

Editor's Note: This is Part 1 of the tour program. For the remainder, please visit the Forest History Ontario website at www.ontarioforesthistory.ca.

Agenda

9:15 Meet at Turkey Point parking area.

9:30 Travel to Nursery Tract

9:45 Nursery Tract Headquarters and first plantations

- Short talks about Zavitz and Newman and the forest types**.**
- Bus over to Pump house, Pond, dam and picnic area.
- Bus around to Forestry Farm Road and around on Concession Road 6 and back on Forestry Farm Road with commentary at selected locations.

11:00 Backus Woods 4th Concession Road from County Road 59

12:30 Turkey Point Provincial Park Lunch at picnic shelter

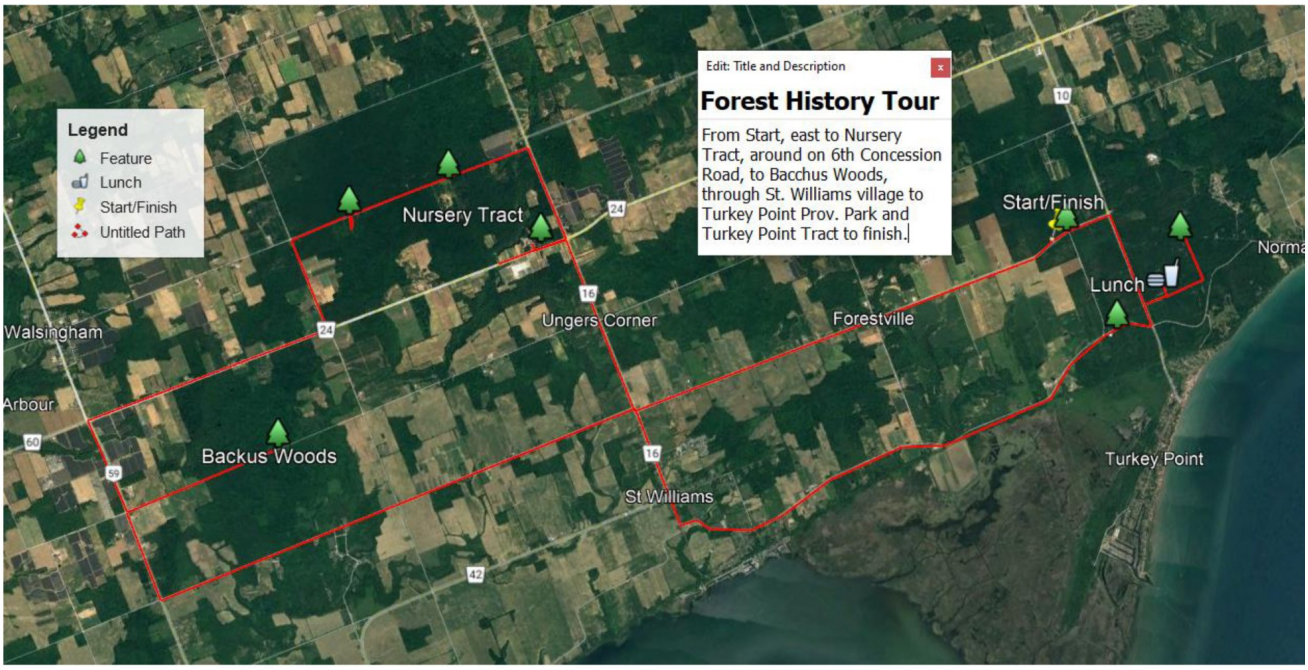
- J. H. White plaque and Arboretum
- Presentation by on Turkey Point Provincial Park by Jeff Pickersgill, Park Superintendent and tour of some park features.

14:00 Turkey Point Tract

- Picetum
- Variable Density trial.
- Black oak woodlands restoration. Walk in to area of black oak and on to the tower
- Carbon flux tower.

15:30 Back to Parking

Route Map



Forestry Station 1 History: The Norfolk Provincial Forestry Station.

The St. Williams Conservation Reserve is two properties: the Nursery Tract and the Turkey Point Tract. It has had name changes throughout the years. Much has been written about the history of the Reserve. The most comprehensive generally available is *They Had a Dream: A History of the St. Williams Forestry Station* by Harry Barrett in 2008. Other sources are listed at the end.

Edmund J. Zavitz (1875-1968) and the Founding of the St. Williams Forestry Station
Edmund Zavitz was born in Ridgeway in 1875. Over the years he developed an interest in nature but it was only in 1903 at McMaster that a professor suggested he check out the forestry programs in the United States. In short order he obtained degrees from University of Michigan and Yale and started work as a lecturer at the Ontario Agriculture College (OAC) in 1905.

The founding of the St. Williams Forestry Station did not occur without gaining experience in the years before. It was preceded by nurseries in Guelph at the OAC and the Homewood Hospital beginning in 1904 as well as experimental planting in southern Ontario. The experience of four years allowed Zavitz and his team at OAC to gain best practices in seeding, transplanting, fertilizing, and planting both softwood and hardwood species.

Also, while teaching and managing nurseries he was able to visit and report on the conditions of the various ‘wastelands’ in southern Ontario including in Norfolk County and documented in his 1908 ‘Report on the Reforestation of Waste Lands in Southern Ontario’:

Norfolk County contains two definite areas of sand lands unfit for agriculture, one being in Walsingham Township and the other in Charlotteville Township. It is quite safe to say that there are 10,000 acres in two contiguous areas, which must be finally placed under forest management.

In July 1908, Zavitz was recommending to the Minister to acquire the south half of Lot 24 Concession 5 in Walsingham Township; 100 acres (41 ha.). By 1919 he had accumulated about 1600 ac. (646 ha).

In 1912 Zavitz transferred from the Department of Agriculture to the Department of Lands, Forest and Mines and was appointed Chief Forester for Ontario. His first annual report on the Forestry Branch was 1913, although he had reported previously to the OAC. He continued providing forestry lectures to the students of the OAC.

From the 1912-1913 Department of Lands, Forests and Mines, Zavitz wrote of the Demonstration plantations at the Forest Station.
At this station, about 300,000 young forest trees have been planted composed chiefly of: —white pine, red pine, Scotch pine, jack pine, black locust, red oak, chestnut and white ash. The earliest plantings of 1909, in which white pine, Scotch pine and jack pine were planted upon pure sand formations, where the sand was blowing considerably, indicate that the best results will be obtained by the use of jack pine and Scotch pine. Many of the Scotch pine and jack pine, which were about twelve to fifteen inches in height at time of planting (1909) are now (1913) from four to six feet in height. Upon the better classes of soil white pine is proving more satisfactory and will be used wherever possible, as its ultimate value makes it more desirable than the other pines.
A plantation made with black locust in (1909) has not proven altogether satisfactory, although the growth during the first two years was quite remarkable, many trees having reached a height of eight to ten feet. During the last winter these trees were badly killed with the frost and the value of this tree, from the standpoint of hardiness, is as yet uncertain.
Various experiments are being conducted at this station along the lines of forest planting, which should give valuable data as to cost of planting; desirability of the various species and general results, which should prove of value in years to come. It is somewhat early to report upon the comparative values of planting in connection with this work.

George Lane (1856-1915)

George Lane worked with Zavitz as a forestry specialist at the OAC nursery that Zavitz had established in 1904. After the first property was bought at St. Williams, Zavitz with Lane and Edward "Scotty" Telford visited the new property to lay out plans for its development as a tree nursery. Zavitz convinced Lane (and his spouse with two young children) to move from their comfortable Guelph residence to the wild, wide open, wastelands around St. Williams. Telford also agreed to work with Lane. It was blow-sand landscape as far as the eye could see.

In the spring of 1909, they moved into two derelict houses abandoned by the previous owners. They immediately got to work improving the two farm houses, and then hiring five local men, a team of horses and built windbreaks. Across the road on the previous Bell homestead and where Telford lived, Zavitz staked out the first nursery beds. Work was hard and continuous.

George Lane took ill suddenly in July 1915. He was rushed to the train station at St. Williams and then to Toronto. He underwent an appendectomy but sadly did not survive. He was buried in Guelph.

That first year, 350,000 bare root seedlings of white pine, Scot's pine and white spruce were shipped by train from Guelph planted by the local crew. These trees actually came from J. Heins' Sohne nursery in Halstenbeck, Germany, shipped April 13th and received in Guelph one month later. No one realized that with the importation of tree seedlings from Germany, they most probably also imported the white pine blister rust disease which still is a problem in the management of white pine. In 1910 another 335,000 trees, mostly Scot's pine, were shipped.

In 1923 a Guide to Norfolk Provincial Forestry Station was prepared for the British Empire Forestry Conference by the Ontario Forestry Branch. The following text is excerpted from that guide.

Introductory
The Norfolk Forestry Station comprising 1,600 acres was established 15 years ago as the site of a provincial nursery to supply tree planting material to landowners wishing to form plantations, replenish woodlots, or redeem waste areas. It was intended to assist objectively in the development in Ontario of the forestry movement.

At present the nursery covers 100 acres, and this season furnished one million trees to private individuals 2,240,000 transplants to two new government nurseries as their initial stock, and planting material for 400 acres of 19 state and municipal reforestation projects in 12 counties throughout the province. The forestry station is nearly three-quarters covered with natural forest, and along with the development of the nursery, has gone the silvicultural treatment of this forest,

The Regional Type
This region in general originally supported by a southern hardwood forest of magnificent development, which has since almost entirely made way for agriculture. The basis of this forest was maple, elm, beech, oak, chestnut and hickory; with butternut, walnut, tulip magnolia, hackberry, sassafras, black gum, coffee tree, etc. as secondary species.

Within the district appear extensive outcrops of pure and light sandy loams, areas washed over by Lake Erie as it fluctuated at different levels. Such sites were covered by white pine with an understory of white oak and black oak; and white pine is still maintaining itself on these areas that have not been too severely burned. Other conifers are not well represented; spruce and balsam are absent; hemlock and cedar occur only sparsely.

The Forest Station Types
The station property occupies a portion of one of the above Sandy outcrops, originally bearing a pine-oak forest. The various lots comprising the property were alienated from the crown around the beginning of the 19th century, but only portions were ever cleared for farming purposes. The remainder was logged over for white pine, to be later run through by fires more or less.

Thus, when purchased for development as a Forest Station in 1909 (with acquirements later), there were 450 acres of cleared land and 1,150 acres of forest growth. The forest area was originally covered with the white pine-oak association to the extent of over 85 percent, the remainder being the pure southern hardwood type. In the case of the former, the extraction of white pine by logging and subsequent fires has affected the transformation to the forest conditions obtaining at the time of purchase.

A survey at that time showed the bulk of the forest area of the Station to be covered with oak, both black and white, but largely the latter, mostly of inferior development; underneath was the scattered reproduction of white pine usually poor. Good white pine regeneration was to be found as a rule only where excessive fires had introduced poplar nurse stands. Scattered throughout the forest, where fires had been less severe were pure stands of second growth pine polewood and even timber size. Where fires had repeatedly run, the forest was reduced to brush land.

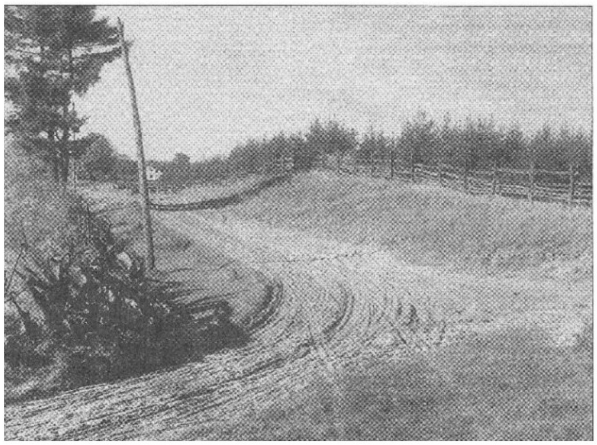
Neglecting the subsequent cultural operations, the condition today maybe summed up in the statement that the forest cover is (1) 60 per cent oak stands as described above and mostly the lower size classes with 13 per cent each (or around 150 acres) of (2) pure white pine, (3) pure southern hardwood, and (4) oak brushland. The road system through the property, affords opportunity to see many examples of all four types of growth.

Silviculture
The primary idea in 1909 behind the establishment of the Norfolk Forest Station was the securing of a site for provincial nursery operations. For five years prior to this a small nursery to provide stock for free distribution to farmers had been conducted at the Ontario Agriculture College in Guelph, but lack of ground for expansion made it necessary to locate elsewhere. The present location of the nursery had as a main, deciding factor, the fact that the surrounding countryside afforded examples of unsatisfactory results from general farming of soils inherently better adapted to tree growth. In these cases not only are the soils light sand, but they have in places a tendency to “blow” once the cover is broken. The usefulness of shelterbelts and plantations in such circumstances soon became apparent to the local people, and the demand for trees is steadily increased each year. During the last few years, the interest has gone even further than the stoppage of soil drifting, for there are specific instances of the re-conversion of land which has been tilled for generations to its original function of growing timber supplies. The influence of

the selection of the present site as the location of the Forest Station is readily gathered from the statement that the demand in Norfolk County for trees for planting far exceeds that of any other county in Ontario.

For the first few years following the establishment in 1909, attention was centred on the building up of nursery ground and the formation of plantations and compartment shelterbelts to stop the sand drifting. Working conditions were bad, for all summer long the air was usually full of fine sand. The first plantations made are those seen at the corner, as one turns into the fifth concession road leading to headquarters; and these were formed because this road was continuously being blocked by the drifting sand.

Five years after its establishment things were nicely underway at the forest station when the war halted operation. Since the war, silvicultural activities have been carried out on a gradually developing scale. Today, the nursery proper contains 100 acres: there being 1,000 seed beds occupying 10 acres, transplant beds covering 40 acres, with the balance resting or transplant ground ready for use again. The nursery at present contains 7,000,000 transplants and 11,000,000 seedlings. The conifers mostly grown are white, red, jack and Scotch pines; white spruce: European and Japanese larch; white cedar; the hardwoods are mainly hard and soft maples, walnut, elm, ash, hickory, cherry, basswood and black locust.



Top: Looking east toward the intersection of Price's Corner and Forestry Farm Road and (now) Norfolk #24. Planting 1909. Note the pine on the right. At intersection looking west, about 1918. Note the pine tree on the left. Bottom: At intersection date unknown, and improved road 1930's. *Zavitz, Courtesy Norfolk County Archives*

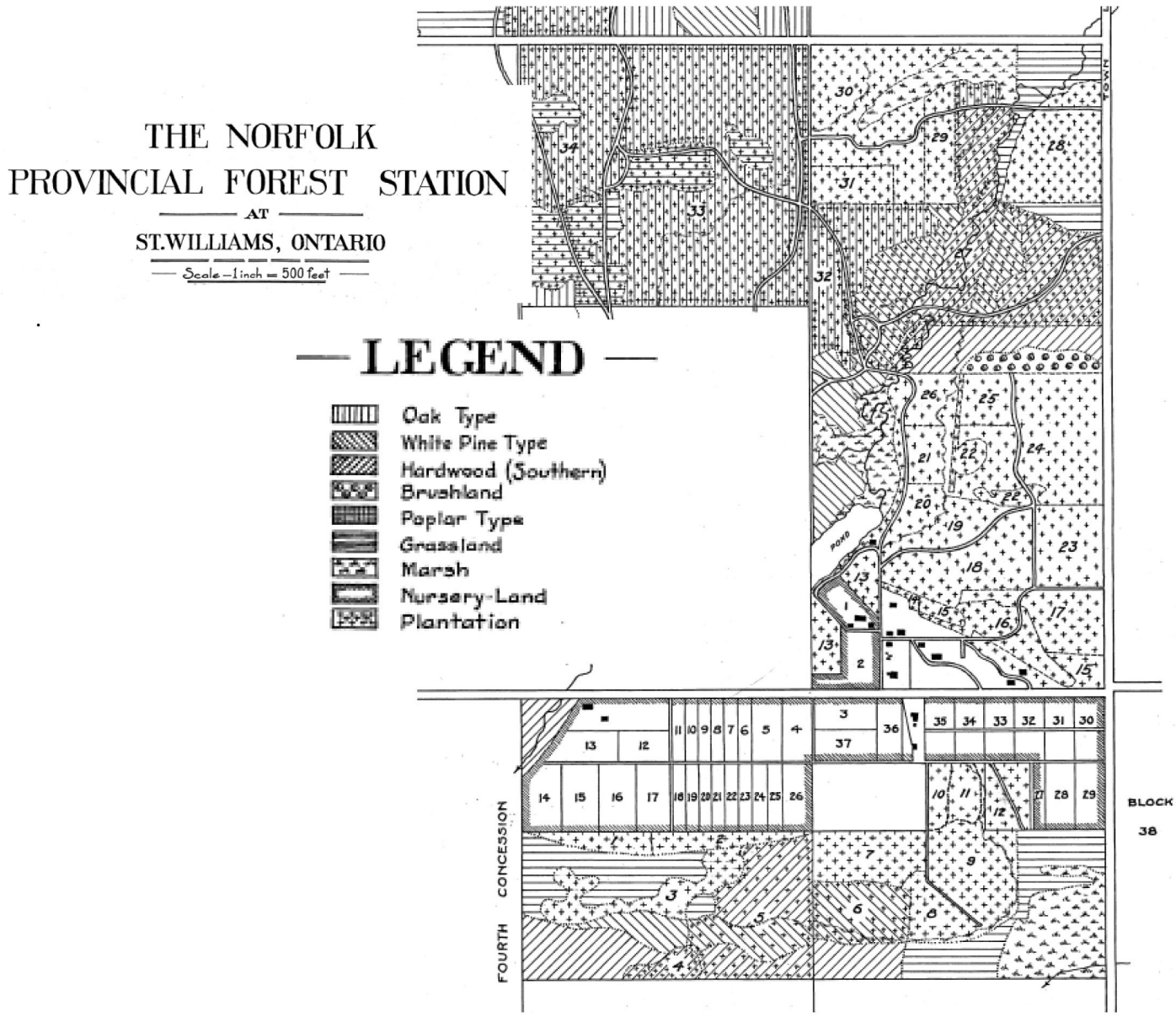
All seed used is collected locally, except the larch and small percentage of the Scotch pine. Storage is in glass carboys in a specially constructed seed house, which in two years has shown a maximum temperature variation of 36 to 42°F. About 1,000 pounds of seeds are sown annually.

Although the production of nursery stock for free distribution to the public has been the primary idea, from time-to-time plantations have been made on the property as surplus stock was available after distribution needs have been met. In the past, this amount has been limited. To date, plantations made on open land total 225 acres, and underplanting another 300 acres. The oldest of these were set out 15 years ago. The species mainly used have been the four pines, white spruce and European larch.

The treatment of the stands of the natural forest is comparatively simple. In the polewood stands of white pine, improvement cuttings are made, coupled in places with thinning practice, and in some instances, the best trees are pruned of dead branches. Throughout the oak stands liberation cuttings have been made in favour of any volunteer white pine growth. This has been done more largely at the expense of the black oak trees than the white, the latter being a more valuable species and causing less damage to the pine leaders by whipping. Where pine reproduction is absent, under planting is carried out after the cutting of brush growth and thinning out of the oak. By next spring practically all the natural forest will have received its preliminary treatment.

The material from cuttings is all utilized at the Station in the construction of buildings and general repairs, in making seedbed frames, screens, and crates for the shipment of tree stock, etc., and for fuel purpose. Conveniently there is a small sawmill adjacent to the property.
This ends the 1923 description.

Explanation of map. This map is from about 1923. It shows only the southeast part of the St. Williams property (500 ac). The road horizontally through the bottom of the map, separating the nursey beds (south side) and the forestry area, is Norfolk County Road 24. The 1923 tour drove through part of this map area. The nursery beds are clearly marked three through 37, with plantations one through 12 on the south edge of the nursery. On the north side of the road are plantation compartments 13 through 34 and nursery beds one and two. The first plantations established were 15, 16 and 22 in 1909, 17, 19 and 24 in 1910 and 10, 11 and 14 in 1911.
Compartment 15 was jack pine from Halstenbeck nursey in Germany described in 1923 as 2½ to 3 inches diameter 23-24 feet in height. Spacing was 3½ by 3½ feet. Compartment 16 was Scotch pine also from Germany. Dominant trees were 3 to 3 ½ inches and 25 feet high with two crown classes due to variation in site. Spacing was the same as above. Compartment 17 was white pine, spaced 5 by 4 feet. The diameter was 3 to 4 inches. And 15 to 17 feet in height. It was badly injured by white pine weevil.
~~Compartment 15 (not typed) seems to have largely disappeared. Cleared in front by road widening~~.
In 1985, Compartment 17 was described as white pine, 27 m in height, a 'historic plantation'. Management was to thin for logs. In 1985, Compartment 16 was described as Scotch pine (80 %) and white pine and soft maple with 10 percent each. Twenty-five meters in height. Scotch pine was removed in 1988.



The office for the Forestry Station was constructed to resemble buildings in the American Parks system. Similar designed buildings are found in Banff National Park and other Canadian national parks. The front of this building was constructed in 1930. The rear portions were added at a later date

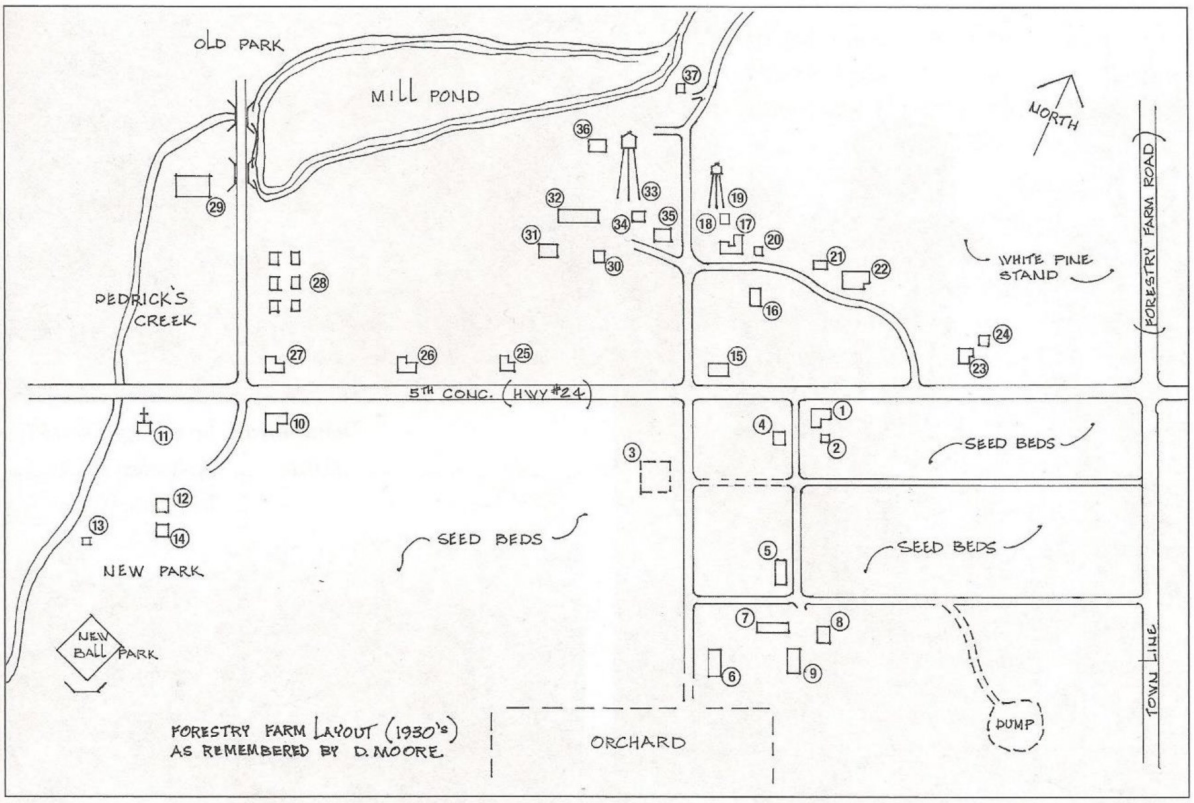
Frank Newman (1889-1966)

Frank Newman started working as a student in Forestry at St. Williams Station and upon graduating with a degree in Forestry in 1913 became a permanent employee at the Station. He was officially appointed the first full-time superintendent later that year. There were 14 employees. In those early days the work at the nursery was very labour intensive. Over the year many innovations were developed by Newman and his staff to reduce manual labour and increase production.

In December 1915, Newman enlisted in the Norfolk artillery and left for Europe and the Great War. In the year Zavitz had lost his two most valued men, George Lane to death and Newman. James White a good friend of Zavitz took a leave of absence from teaching forestry at Toronto to become Superintendent.
Frank Newman returned in 1919 and assumed his previous role as Superintendent until he retired in 1954. He and his Scottish war bride moved into a new house built for them in 1921.

Through the 1920's efforts increased to reforest the barren soils throughout the Station. More infrastructure was built to accommodate the growing nursery and forest plantings. A new office was built for Superintendent Newman.

When the Districts were established in 1946, the Lake Erie District Office was placed at St. Williams, since the forest tree nursery at St. Williams was the centre of greatest activity. Frank Newman was appointed the District Forester while maintaining his position as nursery superintendent. District Foresters at the time were the top manager of the District. Newman during his time as Nursery Superintendent, had a great influence on its inception, development, and management of the Norfolk County Forest properties



Map of Forestry Station buildings by Paul Smith from sketch by Delbert Moore

1. Double house - Bell farm house
2. Woodshed
3. "Bullpen" see page 59
4. Double garage - Moore's cow barn
5. Lumber shed
6. Horse barn
7. Implement shed
8. Telford cow barn with hay and moss storage above
9. Sawmill
10. Jim Jones' (truck driver) house
11. Col. A.C. Pratt's grave
12. Ladies' washroom
13. Little tower pump house
14. Men's washroom
15. Lane house (Waterberry farm house)
16. E. "Scotty" Telford garage 1934
17. Frank Newman's office/Interpretive Centre
18. Ice house
19. Little water tower
20. Lawn mower, tool shed and storage
21. Frank Newman's garage
22. Frank Newman's house
23. (known as the) Telford house
24. Telford's barn and garage
25. McCall house
26. McCall house
27. Tobacco grower's house
28. McCall tobacco kilns
29. McCall sawmill
30. Oil and gas building
31. Wingrove and Heald house
32. Truck parking and repair shed
33. Big water tower
34. Office and tool shed
35. Dining hall
36. Seed extractor
37. Pump house for big tower

Restoration Of Oak Savannas and Woodlands -Audrey Heagy

Savannas and woodlands are natural ecological communities that are intermediate between tallgrass prairie and forest. A diagnostic feature of these habitats is an open canopy that allows lots of sunlight to reach the ground. The ground cover is generally a dense mix of grasses and flowering plants but may include pockets of open sand (referred to as sand barrens). At St. Williams Conservation Reserve the characteristic tree species in these habitats is Black Oak. More than 100 native plant species are found only in oak savanna and oak woodland habitats in southern Ontario and are often referred to as "savanna-indicator" species. Due to their specialized habitat requirements, many of these savanna-indicator plant species (along with associated insect species) are rare in Ontario and Canada. About 50 savanna-indicator species are found at SWCR, including Wild Lupine, Dwarf Chinquapin Oak, and Bird's-foot Violet. Frequent ground fires are essential for maintaining these habitats, which in the absence of fire become ingrown with shrubs and shade-tolerant trees species such as Red Maple.

The primary management goal of the St. Williams Conservation Reserve, that includes 1,034 hectares of the former Forestry Station Crown Lands, is to restore and protect the natural legacy of ecological communities that were present on these lands prior to European settlement. This ambitious goal requires turning the clock back on more than 200 years of land clearing, tree planting, and many invasive plants, insects and diseases. At the time of the land surveys around 1800 White Pine was reported to be the most frequent tree species, but with evidence of recent fires and some area with "uneven and scrubbed timber chiefly oak and small pines". However, the widespread presence of savanna-indicator species at both the Nursery Tract and the Turkey Point Tract suggests that historically savannas and woodlands covered up to 75% of these areas, with Carolinian forests and wetlands being the natural cover on the remaining 25%. Ingrown oak woodland, oak savanna and sand barren remnants currently comprise about 20% of SWCR and are the focus of restoration activities, including prescribed burns and brush control.

Forest management activities are focused on converting the pine plantations and other areas of planted pines into natural forest or woodland habitats. Restoration of many of the furrow planted plantation on former agricultural lands will require active seeding or planting with locally source plant material. Expanding and re-connecting the remnant natural habitats is a priority. Management of the Carolinian forest and wetland habitats is focussed on invasive plant control and enhancing habitat conditions for Eastern Flowering Dogwood, American Chestnut and other species at risk.

Backus Woods – Nature Conservancy of Canada

This spectacular older-growth forest is home to some of the oldest living trees in Ontario and is one of the best remaining examples of Carolinian forest in Canada. A haven for species at risk, Backus Woods provides important habitat for prothonotary and cerulean warblers, Louisiana waterthrush, eastern fox snake, Blanding's turtle and Jefferson salamander.

For generations, people near and far have grown up exploring the forest paths, swamps and streams of Backus Woods. For many, it was where they discovered a love for the natural world. For others, it is where they go to relax and recharge. The forest's roots grow deep within the community.

In 1796 John H. Backhouse arrived in the Long Point District from Yorkshire, England. He started a sawmill on 600 acres (242 hectares) of land he received as a land grant – what would later be known as Backus Woods. He later added a grist mill, still standing, now the oldest one in Ontario. It is located in the nearby Backus Heritage Conservation Area (next door to NCC's lands), operated by the Long Point Region Conservation Authority (LPRCA).

The primary natural resource value of the Backhouse lands was lumber, much of which was exported to build the Welland Canal and various railways. Lumber was in high demand, but the Backhouse family recognized that the forest could only sustain so much yield before it became threatened. Thanks to these early stewardship mindsets, Backus Woods remains intact today. The woods are now called "Backus Woods" and not "Backhouse Woods." As the years went on, the Backhouse milling operations were carried out by successive generations of the family. Eventually, John H.'s grandson, John Cornelius, changed the family surname to Backus. This was because he felt that the name "Backhouse" had negative connotations for their product (flour) at the grist mill., fostered a strong sense of environmental conservation in their kin. In 1955, John C. and his wife, Florence Erie decided to protect the natural values of the property far into the future. In a letter to the Big Creek Conservation Authority (now LPRCA), John C. Backus conveyed his family's thoughts: "……to have the estate taken over by the Big Creek CA and preserved in its entirety for the benefit of future generations. ….."

NCC acquired Backus Woods in 2011, and has been caring for and enhancing this unique habitat and beloved conservation destination ever since, thanks to the generous support of the Weston Family Foundation, TD Bank Group through the TD Forests Program, and the Government of Canada, through the Natural Areas Conservation Program.

Adapted from Land Line: The Nature Conservancy of Canada Blog. Oct 11, 2018
https://www.natureconservancy.ca/en/blog/archive/a-trip-back-in-time.html and
NCC website https://www.natureconservancy.ca/en/where-we-work/ontario/featured-projects/backus-woods/.

St. Williams Conservation Reserve and the
St. Williams Conservation Reserve Community Council – Adam Biddle

The St. Williams Conservation Reserve (SWCR) is comprised of 1,035 hectares of land owned by the province of Ontario, and includes land that previously formed part of the St. Williams Forestry Station. The SWCR is divided into two separate tracts: the Zavitz Nursery Tract, and the White Turkey Point Tract.

The land on which the SWCR is situated was acquired by the province of Ontario in the early 1900's for the establishment of the St. Williams Forestry Station. The Forestry Station was privatized in 1998 and the land containing nursery infrastructure (greenhouses, offices, and production fields) was leased to a private organization for the continuation of nursery operations. Jurisdiction over the remaining lands, referred to as the St. Williams Crown Lands (SWCL), came under the local Ministry of Natural Resources (MNR) District Office in Aylmer.

From 1999 to 2001, a steering committee formed of local stakeholders investigated alternative management models that could be applied to help manage the SWCL. In 2002, the province announced that it was proposing to protect and regulate the SWCL, stating its intent to balance the protection of the natural heritage features of the property while allowing traditional uses to continue. Shortly afterwards, a Technical Advisory Committee (TAG) was formed and mandated to provide recommendations for the long-term management of the SWCL.

In 2004 the province made its intent to regulate the SWCL as a conservation reserve known through an amendment to the Simcoe District Land Use Guidelines. The area was formally designated as a conservation reserve in 2005 through the Public Lands Act and since 2007 has been regulated through the Provincial Parks and Conservation Reserves Act.

Specific direction for managing the SWCR comes in the form of a Management Plan that was approved in 2007 and developed by the MNR, taking into consideration recommendations made by the TAG, program specialists from within the MNR, and public consultation. The Management Plan provides the foundation for the continued monitoring of activities and guidance for the management of the SWCR and includes 5 key objectives: Natural Heritage Protection and Restoration; Cultural Heritage Protection; Recreational Opportunities; Educational Awareness; and Research Opportunities. Operational plans are developed every 10 years and provide details for the implementation of policies and objectives stated in the Management Plan.

The St. Williams Conservation Reserve Community Council (SWCRCC) was formed in 2007 to act as a community liaison with the MNR, though the MNR was ultimately responsible for the implementation of the Management Plan and Operations Plan. The SWCRCC would meet with a team of MNR staff periodically and provide input on operations such as trail management and vegetation management. Given the limited amount of resources the MNR was able to dedicate to managing the SWCR and advancing the objectives of the Management Plan, the role of the SWCRCC continued to grow to include developing work plans and coordinating projects. In 2012 the SWCRCC incorporated as a not-for-profit corporation

and officially took on a lead role in the implementation of the Management Plan and Operations Plan. This now provided the SWCRCC the ability to directly manage funds derived through government grants and vegetation management operations and allowed long-term financial planning. In 2019 authority over the SWCR was transferred from the MNR to the Ministry of the Environment, Conservation and Parks (MECP), with Ontario Parks staff tasked with overseeing the SWCR. The SWCRCC continues to take the lead on project implementation while Ontario Parks staff remain the governing body over the land and provide logistical and operational support to the SWCRCC.

Currently, the SWCRCC is comprised of 11 board of directors. Most of the restoration and monitoring work implemented within the SWCR is done so through service agreements with private contractors. The SWCRCC maintains annual agreements with a Project Coordinator, who is responsible for the majority of work planning relating to restoration and monitoring activities, including completing grant proposals and reporting on grant funded activities, and a Field Operations Technician, who takes on tasks such as invasive species control, trail maintenance, preparing areas for prescribed burning, and species-at-risk monitoring. Other activities such as ecological surveys, prescribed burning, and thinning of conifer plantations are completed by independent contractors through agreements with the SWCRCC.
The board of directors meet monthly to conduct business relating the SWCR, including liaising with the Project Coordinator, Field Operations Technician and Ontario Parks staff.

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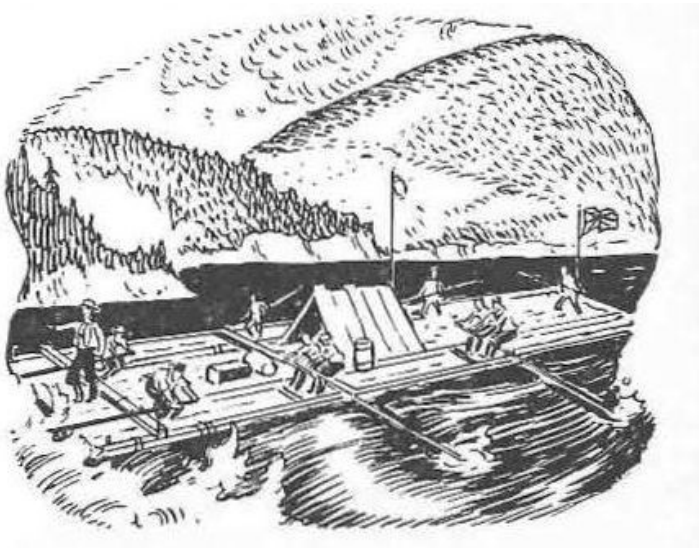
Editor's Note: This is Part 1 of the tour program. For the remainder, please visit the Forest History Ontario website at www.ontarioforesthistory.ca.

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.

To Quebec on a Raft
By T. Thorpe
Reprinted from Sylva Vol (3): 15-25, 1947

In June, 1806, Philemon Wright took the first raft of square timber down the Ottawa River, from the mouth of the Gatineau River to Quebec. Since that time until about 1901, all square timber on the limits bordering the Ottawa River and its tributaries was taken to Quebec for the English market via rafts moving by direction with the current of the river in non-navigable parts, and being towed by steamer down through the different lakes that form part of this great waterway.



The timber slides on the Ottawa River were presumed to be 27 feet wide inside. A crib of square timber was not supposed to be over 26 feet wide. This permitted sufficient leeway for a crib to chute, without jamming, the series of slides encountered on a trip by raft down this river. A crib of timber consisted of from 15 to 22 pieces, according to the size and length of stick – an ordinary stick would be 16" x 16" x 36'. Red pine timber was hewed to a proud edge, white pine timber being of superior quality was not hewed to a proud edge, there was from 6" to 10" of a waney corner, consequently many white pine pieces were very large sticks of timber. All timbers were marked with the company initials by an experienced man with a scribing iron. It has been commented on before, but unless one has seen some of these men who could hardly write their own name mark with a scribing iron the capital letters representing the company owner, it would be difficult to believe this had not ben mechanically done. All sticks, in all cribs, were numbered with paint by stick and by crib, viz, - 9 – 18. This would be stick No. 9 in Crib 18. In this way, work retrieving and returning to their proper place loose sticks, was greatly minimized. Calked boots were taboo after the raft was started on its way to Quebec. This was to avoid disfiguring and damaging timber any more than absolutely necessary.

Although the days of the timber raft on the Ottawa have long since passed, the rivers are still used for the drives. Logs are released from the dump in the Spring K. M. Andresen

A crib of timber was constructed by placing three, and sometimes four traverses 26 feet long crosswise with the length of the timber sticks. These outside traverses were held in place at each end by a large 3-inch ironwood stake that protruded

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Sturdy river drivers pry the logs loose and float them into the river *K. M. Andresen*

through the end of the outside stick of each crib, extending about two feet above the top of the traverse. These cross-pieces or traverses were hewed on two sides, somewhat resembling an extra long axe-made tie, and were 5 inches thick. The space between the outside timber was filled in by picking certain sizes to match the open space. Sticks were then placed on top of these traverses. These were called loading-sticks, and were placed about six feet apart. The loading-sticks were held in place by "calumet pins" – short stakes placed on each side of the stick, and set in an auger hole made in the traverse. This was the make-up of one crib of timber. A raft of square timber might consist of 1,200 to 1,800 pieces, or about 100 cribs. Cribs were a unit in themselves but were so constructed with the long 3-inch stake or post at each corner, that the raft could be assembled in short order.

When the first crib of a raft was run through a timber slide, it was snubbed up at some convenient point well out from the foot of the slide. As each succeeding crib came through the slide, it was rowed over to the first crib, and by the aid of a "cap-piece", was connected to the initial crib on two corners. This "cap-piece" resembles a short hewn tie about 5 feet long, with 4-inch auger holes about one foot from the end. This "cap-piece" would fit over the corner pickets of one side of an adjoining crib, locking them together, but permitting enough sway to avoid stiffness. Two large oars about 20 feet long accompanied each crib. Oar locks were made from a 3-inch piece of deal 2' x 8" with a notch sawed out of the centre to make room for the oar. This oar lock was spiked on to the end of a loading-stick. A man on each end of a loading-stick handling one of these long oars could, with the greater leverage he had, move a crib into correct position in a short time.

Noted for their reckless daring, the river driver is a skillful and efficient workman who takes great pride in his ability to handle the heavy logs in fast waters *K. M. Andresen*

A roofed, open sided, cooking outfit was set up on one of the cribs. This was possibly the original "cafeteria style" of having lunch, only loading sticks were substituted for tables. An office and storehouse were set up on an adjoining crib. The men were housed in small houses set up on two loading-sticks, and made from ½-inch lumber. These were about 7 feet long, three feet wide and three feet high. They were made to hold two men, and resembled a dog house. However, you were never in them long enough at any one time to experience much inconvenience.

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The foreman in the foreground keeps a watchful eye on the operations as the traditional spirit of the drive grips the men K. M. Andresen

The particular raft of timber I refer to originally formed part of a mixed drive of logs and square timber that came down one of the tributaries of the Ottawa River above Pembroke. The square and waney timber was rafted up and started on its way to Quebec about the latter part of May some years ago. The raft was towed by a steam tug down the Ottawa across Allumette Lakes in front of the town of Pembroke, and tied up at the head of Allumette Rapids. These rapids were too narrow and rough to run the whole raft through at one time. The raft was therefore broken into four equal parts called "bands", each band being five cribs wide and five cribs long. These bands were again assembled at the foot of Allumette Rapids and towed across the Lower Lakes to the head of Paquettes Rapids. From here the timber was moved in bands past the towns of Waltham and Fort Coulonge on the Quebec side, to the head of Calumet Rapids. At this point the raft was again broken into cribs, and these units were taken by the swift water a distance of some ten miles to the foot of the rapids at Portage du Fort. It could be mentioned here that the Calument Rapids were one of the spots most dreaded by raftsmen. When water was high, there were three very large waves at the foot of Calumet slide that oft-times floated off some of the loading-sticks, and up-ended some of the short floor sticks. Many cribs were a real wreck after emerging from this spot. However, the danger was not so grave as one would expect after viewing a wrecked crib. An agile raftsman had sufficient time to move out of the way of the moving sticks. The history of passing timber by raft down the Ottawa would not be complete without mentioning the "Post Office". This is a large eddy below the Calumet Chute. If the crib was not kept far enough to the left side of the river, it would be sucked back into the eddy, and unless the crew were very strong on the oars and lucky besides, the crib would make five or six trips around this eddy before getting into the main current. There was no actual danger connected with this mishap. The eddy always lost its grip and emptied out coming on evening. However, the crew of this crib had to take jeers and comments of the more lucky fellows who by evening had made three or four round trip voyages past this "Post Office" in a crib.

Breakages of the heavy cant hooks and peavies are frequent on the drive and of necessity are kept in constant repair. K. M. Andresen

The foreman of the drive must keep the respect of his men. It is traditional that he handle the most dangerous assignments himself. A typical river driver foreman. K. M. Andresen

After assembling the cribs at the foot of Portage du Fort, the raft was towed by steamer past Arnprior and Ouyon to the head of Chats Rapids, a distance of around thirty miles. Here

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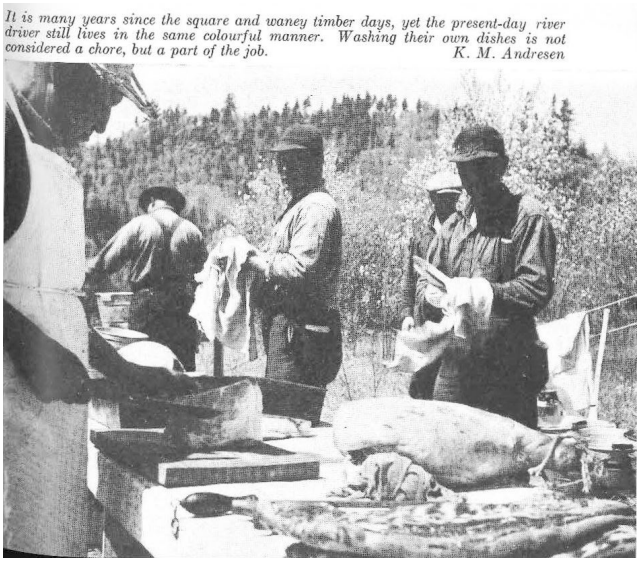
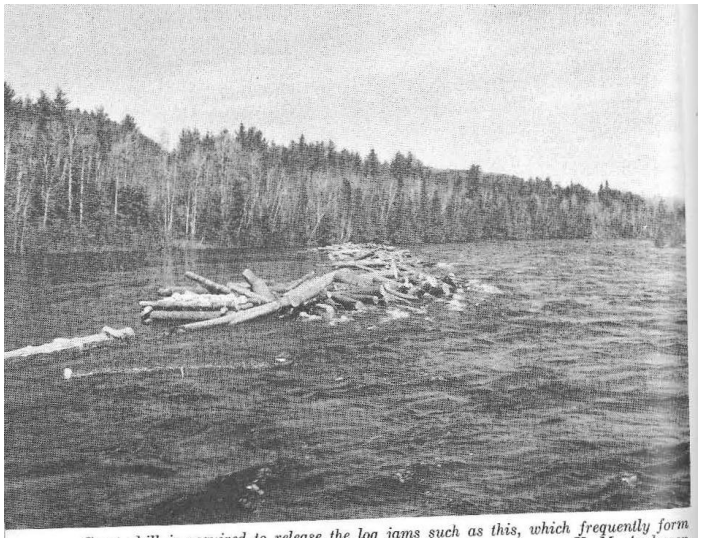


It is many years since the square and waney timber days, yet the present-day river driver still lives in the same colourful manner. Washing their own dishes is not considered a chore, but a part of the job. *K. M. Andresen*

again the raft was broken into bands and run to the head of Chats Slide; from here it was broken into cribs, and after running the slide, the raft was re-assembled at the head of Deschenes Lake. From here it was towed by steamer, a distance of some thirty miles to "Britannia on Bay", near the city of Ottawa.

It might be thought that this was all a drab procedure, but I might describe here some of the sections of handling a band of timber in swift water. The pilot stands on top of a loading-stick in the centre of the band, usually with his felt hat crumpled up and held tight in one hand. Some ten men are manning long oars at the bow of the band, with a corresponding ten men manning the stern oars. When the Pilot's two arms are held out straight, no oars are dipped. When he wishes the band to be moved to the left (possibly to avoid shallow water or rocks) he waves frantically in the direction, at the same time shouting at the top of his voice "Envoyes Fort Par Devant". To the men on the stern of the raft, he waves his arm in the opposite direction, at the same time shouting the order "Envoyes Fort Par Derriere". It is needless to say that when the Pilot shouted his orders and gave direction by his hands, that immediate action was taken by the oarsmen in bow and stern, respectively. By this guidance, a skilled Pilot could take a large band safely through rough water. When a band was moving along in the right current, the Pilot's both arms were extended and held still, until further shifting of the band was necessary to escape rocks or shoals that were known to the Pilot. It is uncanny the way these Pilots knew their water. A band might be proceeding through some of these swift places, with an island in the centre of the river. While approaching the island at a good speed the Pilot shouts orders to the bow oarsmen to pull hard towards the island. It would be expected that the band would pile up on this island, but the Pilot knows what most of the crew lack – the knowledge that there is a very strong throwback from this island and unless the band almost scraped the bottom of this spot, it would be carried by the strong current to pile up on the opposite point on the mainland shore.



Great skill is required to release the log jams such as this, which frequently form during the course of a drive. *K. M. Andresen*

From "Britannia on Bay" above the City of Ottawa, the timber was run in bands through the Deschenes Rapids to the head of the timber channel at Ottawa, a distance of around six miles. The Chaudiere Falls was avoided at this point by running the timber slide on the inter-provincial bridge. The first crib through the slide was tied up just below the Parliament Buildings on the bank of the river. It was interesting to watch the shore dwellers in small boats scramble for fuel refuse from rafts, - such as broken oars, broken cup pieces and drift-wood that would be run through when the boom at the head of the slide was opened for timber passing.

A steamer towed the raft from Ottawa, down-river past the towns of Rockland, Wendover, L'Original and some smaller villages, to a point near Grenville. From here, the raft was run through the Long Sault Rapids at Carillon. The raftsmen were transferred back to the head of the rapids by the Grenville & Carillon Railway. Special Pilots were taken aboard at Bord du Plouffe to navigate the

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As in the square timber days, Ontario's forests are still our greatest natural resource. Gathered in a huge boom at the end of the drive, these logs will keep our mills active.
K. M. Andresen

Sault Rapids. From Carillon, the raft was towed by steamer, in different stages across Lake of Two Mountains, and on down the Laprairie side of Mount Royal Island.

It was the custom to dispense with the greater part of the raftsmen when the raft was close to Montreal as there were no more rapids to run, and the raft was maintained in one block. All was plain sailing or towing right in to Quebec. A skeleton crew of some ten men could finish the job. Calumet pins were all taken out, broken oars picked up, auger chips swept up and the cribs all made clean and presentable. From the Lake of Two Mountains to head of Lake St. Piere was about three days towing time. Here the tide was quite noticeable. It was customary to wait until late in the day to start across Lake St Piere, in order to take advantage of the out-going tide, and as further precaution against stormy weather which is common on this lake, and is more severe during daylight hours.

From the foot of Lake St. Piere to Wolfe's Cove (some nine miles up river from Quebec) was about three days' towing. The waters of the Ottawa and St. Lawrence River converge here, and are noticeable by their different colouring. Between Lake St. Piere and Quebec, many small towns were passed. Three Rivers, situated right on the bank of the river along the route of water travel, was outstanding.

Arriving in front of Wolfe's Cove at low tide, one's attention was drawn to square timber away back on shore, apparently in a field. However, as the tide came in, it was not long until our own raft was settled down and made secure along-side of this neighboring timber.

Six weeks had gone by, chumming with these different cribs, sleeping houses, row-boats, large coils of rope, and timber dogs. Out work was completed; we were paid off and headed for the nearest dock, where sufficient taxi-cabs were lying in wait, eager for a fare into the city of Quebec. It was usual for raftsmen to spend an extra day in this City before departing for their respective homes. Since the passing of the square timber days, the Ottawa River has had its face lifted. It has been altered somewhat with power-dams being erected at different points. Small towns sprang up where no towns were before.

There may be found some small discrepancies in describing some of the waterways, but if this article contributes anything as to how rafting was formerly done on the Ottawa River, it will have served its purpose.

Art in the Park: Timber Rafts on the Ottawa and St. Lawrence Rivers

By: Sherry Hambly

The Sylva reprint for this issue of *Forestory* describes the timber raft drives on the Ottawa and St Lawrence Rivers to Quebec during the 1800s. As I read the article I began to wonder if there was any art associated with this historic activity. A search of the internet answered with a resounding yes! This article provides a few examples of the art depicting these timber raft drives.

The First Raft on the Ottawa River – circa 1930
https://www.cwjefferys.ca/the-first-raft-on-the-ottawa-1806

C. W. Jeffreys
C. W. Jeffreys was born in England, eventually relocating with his family to Hamilton, Ontario, in the late 1880s. He is famous for his illustrations of various aspects of Canada's history. Many of his works were published in the three volumes of The Picture Gallery of Canadian History. This work depicts the first timber raft floated down the Ottawa River in 1806 by J.R. Booth and his associates. J.R. Booth rode the raft all the way to Quebec. He was too late to meet his contract for the wood and had to sell at a loss. But the experience set him on a path to further timber raft eandeavours. He became a renowned timber baron in the Ottawa area. There were no timber slides at this time so the journey was rough and dangerous. Provenance: Library and Archives Canada, Acc. No. 1972-26-792, The First Raft on the Ottawa, 1806. https://www.cwjefferys.ca/

Landscape with Encampment on a Timber Raft – circa 1865
https://www.wikitree.com/photo/jpg/Raftsmen-1

Frances Anne (Beechey) Hopkins
FAH, as she signed her art, was born in Britain. She married Edward Hopkins, an official with the Hudson's Bay Company. They lived in and around Montreal for the decade covering the 1860s that they resided in Canada. During that time, they took several trips together to visit fur trade routes.

To market

The worst was behind them when their raft of logs at last reached flat water on the lower Ottawa and the St. Lawrence. One can imagine the scent of rum and roasting meats and the sounds of music and laughter following the raftsmen to Montreal and Quebec.

Frances Ann Hopkins

FAH created only a few paintings depicting timber rafts. This painting is perhaps the most beautiful rendition of an Ottawa River timber raft. It depicts the immensity of the rafts, the community atmosphere of

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living quarters along with various details of these raft structures. The provenance of this piece was not available via a thorough search of the internet. https://en.wikipedia.org/wiki/Frances_Anne_Hopkins

Timber Slide and Bridge Across the Ottawa River – 1838
https://archive.org/details/McGillLibrary-123891-2173/page/n89/mode/2up - middle image between pages 24 and 25
W.H. Bartlett / J. Sands
William Henry Bartlett was a British artist and engraver. Bartlett traveled extensively, including four visits to Canada during the mid 1800s. He is very well known for his art works depicting various aspects of life in Canada. This piece was created by Bartlett and published in Canadian Scenery in 1842. Bartlett both painted and engraved his paintings. Other artists also engraved his paintings. This painting was later engraved by James Sands. Sands was an architect and engraver in England during the first half of the 1800s. He visited Canada in the late 1830s. The print depicts the challenges of managing a timber crib through rapids near Ottawa. It required skill and courage and must have been a terrifying experience. The first timber slide was built in 1829, 23 years after the first raft was driven to Quebec. Provenance: "Canadian Scenery Illustrated" Volume II; from drawings by W.H. Bartlett, The Literary Department of N.P. Willis, Published by George Virtue, London. http://www.biographi.ca/en/bio/bartlett_william_henry_8E.html https://www.britishmuseum.org/collection/term/BIOG44951

View of the Chaudiere Falls at Bytown – 1838
https://recherche-collection-search.bac-lac.gc.ca/eng/home/record?app=fonandcol&IdNumber=2837483
Charles John Colville of Culross
Colville was an officer in the British army stationed in Canada (Toronto) in the late 1830s and early 1840s. During his time in Canada he painted various scenes of the local landscapes including this one. The painting shows the treacherousness of the Chaudiere Falls and their immensity in relation to a timber crib. The solution to traversing the various falls on the river was to build slides for timber cribs to bypass these hazards. Colville came from a distinguished family in Scotland. After his time in Canada, he returned to his homeland where he

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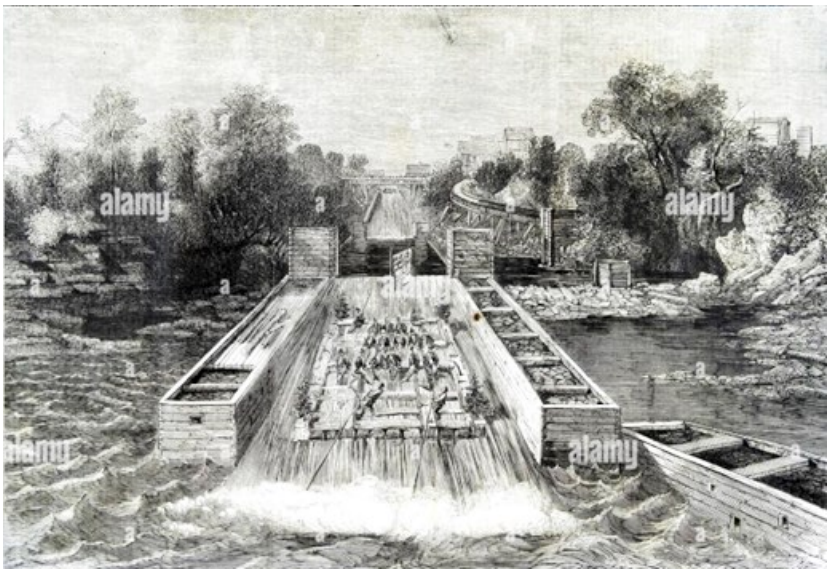
entered politics, representing his local area for many years. After politics he held various roles for various British elites including royalty. At one time Colville had been an aide of Lord Stanley, Governor General of Canada. Stanley instructed Colville to obtain a cup to be given to the winning hockey team in Canada. It is now known as the Stanley Cup that is given to the winning team of the National Hockey League. Provenance: Library and Archives, Canada.
https://en.wikipedia.org/wiki/Charles_Colville,_1st_Viscount_Colville_of_Culross
https://www.fortyork.ca/images/newsletters/fife-and-drum-2012/fife-and-drum-dec-2012.pdf
https://hockeygods.com/images/12684-Charles_Colville_was_instructed_to_purchase_the_Stanley_Cup_1892

Perilous Situation of a Raft, Chaudiere Falls, Ottawa, Canada – 1855
https://www.aci-iac.ca/art-books/ottawa-art-and-artists/historical-overview/
William S. Hunter Jr.
William S. Hunter Jr. published "Ottawa Scenery", a book showcasing his art and that of his father (William S. Hunter Sr.) of the local Ottawa landscape. This painting captures a real time incident showing two raftsmen who were swept off their raft while traversing Chaudiere Falls in Ottawa. The incident occurred on the morning of June 2, 1848, and was described in the Bytown Packet. The article can be found on Rick Henderson's webpage "Capital Chronicles" - https://www.capitalchronicles.ca/post/triumph-and-tragedy-at-the-chaudi%C3%A8re. The incident drew a crowd of 500. The two men were eventually rescued. The painting underscores the hazards timber rafters faced during their journey down the Ottawa. Provenance: Library and Archives Canada; Hunter's Ottawa Scenery, 1855.
http://townshipsheritage.com/article/william-s-hunter-1823-1894

The Prince of Wales in Canada: His Royal Highness Descending a Timber Slide at Ottawa – 1860
https://aix1.uottawa.ca/~weinberg/slide.html
G. H. Andrews
George Henry Andrews was trained as a British agriculture engineer who transitioned to a career as a book illustrator/engraver. He was also a distinguished marine painter. He was employed by the Illustrated London News as a staff artist. In 1860 he accompanied the Prince of Wales on his trip to Ottawa. The Prince and his entourage took a ride



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on a timber raft down the Chaudière timber slide. Andrew's painting of the event was published in the Illustrated London News. He created several other works on his trip to North America.
Provenance: London Illustrated News, October 20, 1860.
https://www.royalacademy.org.uk/art-artists/name/george-henry-andrews

Raft in a Squall, on Lake St. Peter – 1840
https://archive.org/details/McGillLibrary-123890-2172/page/n215/mode/2up - Facing page 116
W. H. Bartlett
Another Bartlett print showing the hazards of weather that the rafters faced on their journeys.
Provenance: Canadian Scenery, Volume 1, facing page 116.

Raft on the St. Lawrence at Cap Sante – 1838
https://archive.org/details/McGillLibrary-123890-2172/page/n215/mode/2up - Facing page 121
W. H. Bartlett
Bartlett created several pieces of art depicting timber rafting. The scene above shows timber rafts in a cove by Cap Sante, located near Quebec City, the last destination of the timber rafts before being dismantled and loaded onto ships for transport, primarily to England.
Provenance: Engraved view published in N.P. Willis, Canadian Scenery, 1842, Vol. I, facing p. 121.

Florentine De Cia, associated with A.B.C. Strategies, Ottawa, produced a document of all of Bartlett's art work related to timber drives and rafts. The document is in french but the titles of the artworks are in english. This document can be accessed here: https://diffusion.banq.qc.ca/pdfjs-3.10.111-dist_banq/web/pdf.php/CBHCnQQoZY_hRLft5ocsZg.pdf.

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The Timber Raft – 2004
https://diplomatonline.com/mag/2020/08/on-the-road-again/diplomat_2020-08-01_0130/
Pierre Hardy
Hardy was born in Ottawa and studied fine art at the University of Quebec in Hull. He is an award winning mural artist and has painted over 40 murals. He was commissioned by the City of Pembroke to create a mural commemorating the timber industry heritage of the area. The mural is located within the city limits and depicts a timber crib. Several cribs were tethered together to form a huge timber raft. Provenance: City of Pembroke. https://pembroke.ca/en/recreation-and-culture/pembroke-heritage-murals.aspx#Pierre-Hardy

Squared Timber Rafts in Cove, Ottawa, ON - about 1880 - Photograph
https://collections.musee-mccord-stewart.ca/en/objects/166547/radeaux-en-bois-equarri-dans-une-anse-ottawa-ont-vers-18
Artist Unknown
The art of the timber raft includes photographs as well as paintings. This photograph was taken in 1880 and was hand coloured in 1895. It shows a timber raft in a cove within the City of Ottawa. Provenance: McCord Stewart Museum, Montreal.

Other Artworks
There are other pieces of art representing and depicting the timber raft drives on the Ottawa River, down to the St Lawrence River and on to Quebec where they were loaded onto ships for transport primarily to Britain. The best way to find and view these other works is to search the internet using various combinations of words such as timber, raft, Ottawa, river, drive, logs and/or cribs.

The best online document showing art related to timber raft drives on the Ottawa and St Lawrence Rivers is the Museological Plan for the Philemon Wright Museum in Ottawa. It can be accessed here: https://numerique.banq.qc.ca/patrimoine/details/52327/4302515 .

References Related to the Timber Trade of the Ottawa Valley, Part 1

Compiled by: Sherry Hambly

The Ottawa Valley timber trade of the 1800s was an extremely important era in Ontario's forest history. Much has been written about this time period. The history encompasses many aspects of the forest and forest industry. Ontario was blessed with vast pine and oak forests, especially in the Ottawa Valley. Larger pine trees grew in southwestern Ontario, but nothing compared to the density of the resources of the Ottawa Valley. This history encompasses world politics, international treaties, economics, immigration, transportation, social and cultural events, lumberjack legends and the beginnings of forest regulation and management. An unimaginable volume of trees was harvested and floated down the Ottawa River to the St. Lawrence and on to the port of Quebec. Ottawa was the centre of this activity, and Quebec City became one of the largest ports in the world because of it. The journey from the upper reaches of the Ottawa (Temiskaming) to Quebec was fraught with obstacles of rapids and falls. Ingenuity led to the development of timber cribs and rafts and timber slides. The men who worked in this endeavour were hardy souls, and many lost their lives on the river, or in the transportation of logs on ships to Britain. Some men (Lumber Barons) became very rich. J.R. Booth had the largest sawmill industry in the world in the late 1800s.

There were three segments to this history – the square timber trade that flourished in the first half of the 1800s; the sawmill trade that began around 1850; and finally, the pulp and paper phase that started in the early 1900s. The timber trade created considerable waste in the woods during the square timber era, and extreme pollution from sawdust wherever there was a sawmill on the Ottawa River.

This era led to much immigration, and made Canada rich. It is a history of which we should be aware.

The purpose of this article is to provide the reader with an opportunity to explore the writings about this era. The items listed below are not in any order, and, for the most part, are available online. Some of the more important resources, that are not available online, have been included for those who wish to explore the whole array of documents on the topic. This is Part 1. Part 2 will be presented in the next issue of *Forestory*.

All About Timber Rafting on the Ottawa by Rick Henderson
Capital Chronicles, April 3, 2020
-approximately equivalent to six pages with several photos
https://www.capitalchronicles.ca/post/veni-vidi-vici-i-came-i-sawed-i-conquered
- nice picture of Ottawa from the air
- nice picture of raft going through Ottawa
- a few other good pictures including a depiction of the first timber raft floated down the Ottawa
- a good bit about Philomen Wright and his associates and how he got started
- the possible origin of the timber raft
- detailed description of a timber raft - made up of cribs
- this site contains other articles

The Timber Industry - VENI, VIDI, VICI! (I came, I sawed, I conquered!) by Rick Henderson
Capital Chronicles, March 23, 2020, Updated
-approximately equivalent to seven pages
https://www.capitalchronicles.ca/post/veni-vidi-vici-i-came-i-sawed-i-conquered
- details of Philemon Wright's first timber raft down the Ottawa

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(Continued from page 50)

- detailed description of the construction of a timber crib and timber rafts

Triumph and Tragedy at the Falls by Rick Henderson
Capital Chronicles, June 8, 2020, Updated
-approximately equivalent to ten pages
https://www.capitalchronicles.ca/post/triumph-and-tragedy-at-the-chaudi%C3%A8re
- describes several events that happened at Chaudière Falls
- one incident - timber rafters flung off their raft and rescued
- contains several photos

The Timber Trade
Canadian Museum of History
-approximately equivalent to two pages
https://www.historymuseum.ca/cmc/exhibitions/hist/canp1/ca14eng.html
- a short description of the Ottawa Valley timber trade - how it came about - what it was like to work in the woods during this time

Ontario History Plaque About Timber Rafts
Ontario Government History Plaques Program
-approximately equivalent to one page
https://www.ontarioplaques.com/Plaques_PQR/Plaque_Renfrew07.html
- very brief description of timber rafting on the Ottawa
- with photo

2.7 Logging in the Ottawa Valley - The Ottawa River and the Lumber Industry by Ottawa River Heritage Designation Committee
Ottawa River Organization
A Background Study for Nomination of the Ottawa River Under the Canadian Heritage Rivers System
Section 2.7, Pages 89-98, plus another four pages on the forest industry in a broader context
2005
https://ottawariver.org/pdf/09-ch2-7.pdf
- excellent description of the development and activities of the timber industry along the Ottawa River and the part of timber rafts in this important forest era
- material prepared as part of the application to gain Heritage River designation for the Ottawa River

A Background Study for Nomination of the Ottawa River Under the Canadian Heritage Rivers System – 2005
Chapter 4 – Recreational Values
Section 4.8 Human Heritage Appreciation
Pages 206 – 212
https://ottawariver.org/pdf/28-ch4-8.pdf
- contains a listing of heritage appreciation locations of the history of the Ottawa River
- many references to the timber trade and timber rafting

Running the Timber Slides by David Lee
Pressreader, October 1, 2017
-approximately equivalent to seven pages plus photos
https://www.pressreader.com/canada/canada-s-history/20171001/281805694094676
- good description of the development and running of timber through slides in the Ottawa area - especially Chaudière Falls
- 11 timber slides on the Ottawa; five timber slides on the Trent River
- first slide built by Ruggles Wright at Chaudiere Falls in 1829

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- saved time and money
- government involvement; slides made money for the government
- celebrity attraction
- also describes a disaster with one of the cribs traveling through a slide and the rescue of the raftsmen involved
- contains a few good pictures

Lumbering
Westmeath Township History Project (HWTProject)
https://hwtproject.ca/lumbering/
Several Sections
- Conspicuous Importance
- John D. Dunfield's Lumbering in the Ottawa Valley
- Sawmills
- The ICO Booms & Culbute Ship Canal
- The Log Drives
- Timber Baron Alex Fraser, Arklan Farm & Fraser's Landing
- Vern Price, The Shantymen, the Camboose and the Cruisers
- many, many pages of information, photographs, illustrations and data on the timber trade in the Ottawa Valley
- quotes from several different books written on the subject
    - John Dunfield's Six Books on Lumbering in the Ottawa Valley, 1990s onwards
    - James Elliott Defebaugh: History of the Lumber Industry of America in Two Volumes, 1906
    - Charlotte Whitton: A Hundred Years A-Fellin', 1842-1942, 1943
    - Evelyn Moore Price: History of the Corporation of Westmeath Township, 1984
    - David Lee: Lumber Kings and Shantymen - Logging and Lumbering in the Ottawa Valley, 2006
    - John Lowry Gourlay: History of the Ottawa Valley, 1896
    - plus other references

Recalling Days of Rafting on the St Lawrence River by Richard Palmer
Thousand Islands Life.com Volume 15, Issue 6, June 2020
-approximately equivalent to six pages
https://thousandislandslife.com/recalling-the-days-of-rafting-on-the-st-lawrence-river/
- great, short but descriptive account of a raft trip from Kingston to Quebec
- two great photos as well

Museological Plan: Canada's Capital History: Raftsmen and Log Drivers, 200 Years of Heritage by Isabelle Regout and Alexandre Pampalon
2019, 220 Pages
https://numerique.banq.qc.ca/patrimoine/details/52327/4302515
Proposal for a Centre of Excellence by A.B.C. Strategies
2018, 38 Pages
https://numerique.banq.qc.ca/patrimoine/details/52327/3648187
- these two documents are connected
- both contain short but excellent pieces on the history of timber rafting and raftsmen on the Ottawa River
- excellent source of artwork and photos related to timber rafts and rafting

Taming the Deadliest Professions of the Ontario Wilderness
Workplace Safety North, January 6, 2019
-approximately equivalent to six pages

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https://www.workplacesafetynorth.ca/news/news-post/taming-deadliest-professions-ontario-wilderness
- overview of health and safety development in the forest industry from 1915 - 1940
- has a paragraph on the deadly nature of river rafting and the number of rafters that died

A Hundred Years A Fellin' by Charlotte Whitton
The Runge Press, 1942, 172 Pages
https://numerique.banq.qc.ca/patrimoine/details/52327/1974467
- full digital access to an important book on this topic
- excellent detailed account of the start, development and evolution of the timber trade in the Ottawa Valley from its beginning at the turn of the 19th century to the mid 20th century
- provides accounts of the economic, cultural, social, legal, environmental and world history factors driving the development and changes in the industry
- detailed accounts of timber cribs and rafts and timber rafting
- focus is on one family - the Gillies, within a broad overview of this period of time in the Ottawa Valley

Review of Charlotte Whitton's Book
https://pubs.cif-ifc.org/doi/pdf/10.5558/tfc51213-5
- short description (part of one page) of Whitton's book in the Forestry Chronicle by A.S. Michell, Professor of Logging, University of Toronto

The Lumber Trade of the Ottawa Valley
No Author, Published in 1871
-61 pages plus others
https://qspace.library.queensu.ca/server/api/core/bitstreams/6ef75144-a9e7-45ac-a863-59664b08deb4/content
- excellent and detailed description of the Ottawa River from headwaters to its mouth
- great overview of the building of a raft and life on a raft
- detailed description of the sawmills of the Ottawa area
- data for wood extracted for the decade of the 1860s
- a look into the future of the wood industry in the Ottawa region

Mishap on the Dollar by Graham Iddon
Museum of the Bank of Canada, April 30, 2021
-approximately equivalent to one page
https://www.bankofcanadamuseum.ca/2021/04/mishap-on-the-dollar/
- short description of the mishap of a broken boom on the Ottawa River at Ottawa
- picture taken by Malek in 1963 that ended up on the one dollar bill in 1973
- contains a very short overview of the wood industry and Ottawa
- has a few good pictures

Crossing The River: The Story of the Construction of the Victoria Bridge at Montreal 1854 to 1860 by Robert R. Brown (1899 -1958)
Canadian Rail November/December 1994: No. 443
Pages 208 – 222 (see page 214)
https://exporail.org/canrail/canadian_rail_1990_plus/canadian-rail-443-1994.pdf
- reprint of a detailed article of the building of the Victoria Bridge at Montreal in the 1850s
- one of the greatest feats of engineering in the world at the time - at over a mile in length - the longest bridge in the world
- three significant issues - one of which was the passing of huge timber rafts that weighed tons
- a couple of nice pictures of timber rafts

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An Act Respecting Certain Works on the Ottawa River (S.C. 1870, c. 24) Assented to 1870-05-12, Federal Government of Canada
Approximately Equivalent to One Page
https://laws-lois.justice.gc.ca/eng/acts/O-9.5/page-1.html?wbdisable=true
- navigation of the Ottawa River to be subject to the exclusive authority of Parliament
- included timber rafts and timber slides

The Raftsmen of the Ottawa and St. Lawrence Rivers by Leon A. Robidoux
Marquis Imprimatur, 2008, 198 Pages
Available Through Internet Archive
https://archive.org/details/raftsmenofottawa0000robi
- access to the book requires an account with Internet Archive – limited page access otherwise
- covers the age of timber rafting in the 1800s
- describes in detail the timber industry of the 1800s - an overview of how it started, the men involved, both the leaders (company men) and the workers
- good overall description of the industry
- excellent description of rafting timber from Kingston to Quebec
- many images of art and photos related to timber rafting (all without provenance)
- book review one of Robidoux's book:
    - https://www.erudit.org/fr/revues/scientia/2010-v33-n2-scientia1821474/1006160ar.pdf
    - best section is on the timber rafters
- book review two of Robidoux's book
    https://cbra.library.utoronto.ca/items/show/26803
    - includes the story of cribs, drams, slides, shooting the rapids, logjams, and the bigger-than-life men who excelled at this dangerous way of life
    - says best part is the description of the raftsmen

Timber Rafts Come Crashing Down the River by John Kalbfleisch
Montreal Gazette - From the Archives, May 5, 2017
https://montrealgazette.com/sponsored/mtl-375th/from-the-archives-timber-rafts-would-come-crashing-down-river
- describes timber rafts that navigated the rapids near Montreal each spring
- always a challenging procedure
- during the building of the Victoria Bridge there was concern that rafts would crash into the bridge piers
- describes one raft that crashed into a pier - raftsmen thrown into the river but all were rescued

Whiskey and Wickedness Volume 6: The Turbulent Square Timber Era by Larry Cotton
Self Published, 2017
https://heritagerenfrew.ca/book-whiskey-wickedness-vol-6
- Cotton has written six books on the wild and wooly times during the square timber era in the Ottawa Valley during the 1800s
- book six describes the times of the square timber era, including squaring timber, timber rafting and timber slides
- this link presents the topics included in this book
- there are over 100 vignettes in 12 chapters

Lumber Kings and Shantymen by David Lee
Lorimer, 2006, 280 Pages
-a half page overview by publisher Lorimer
https://lorimer.ca/adults/product/lumber-kings-and-shantymen/
- in-depth history of the region and the economy that dominated its formative years

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- examines the environmental impact on the region's natural resources
- explores both the industries and the people, from the axes and sawmills to the brawls and dances
- first three chapters are available online through Google books (56 pages)
https://books.google.ca/books?id=3ZLSf-l0XgIC&pg=PA80&lpg=PA80&dq=ottawa+river+timber+rafts&source=bl&ots=hJk_pGLpAS&sig=ACfU3U2RL26R7e2DS9RXso9jMAH6365-Aw&hl=en&sa=X&ved=2ahUKEwjlr_PRg4GBAxXBkYkEHX5GBoM4KBDoAXoECAIQAw#v=onepage&q=ottawa%20river%20timber%20rafts&f=false
- partial availability to read the book
- describes the start of the square timber trade
- describes the river broadly and the issues related to rafting timber
- identifies key individuals in the trade
- discusses timber theft and the development of regulation of timber harvesting
- describes role of timber slides and river canals in the transport of timber; and the eventual ownership and management of same by government
- includes quick references to timber harvest and transport in other parts of Upper and Lower Canada
- details the economic benefit that the government gained from the timber industry
- learned review of the book:
https://www.erudit.org/en/journals/onhistory/2007-v99-n2-onhistory04959/1065744ar/

II. The Trade in Square Timber by A.R.M. Lower
JSTOR – This article was originally published in Contributions to Canadian Economics Vol. 6 (1933), pp. 40-61 (22 pages)
https://www.jstor.org/stable/136562
- only first page presented
- need to log in through a library to obtain the whole article
- Lower is a famous, learned Canadian academic who wrote extensively about Canada's forest industry
- he is author of the books *The Trade in Square Timber*, *North American Assault on the Canadian Forest* and *Great Britain's Woodyard*
- he wrote many articles as well on this topic - some of his other writings that discuss Ontario's timber trade include:
    - Settlement and the Forest Frontier in Eastern Canada (1936)
    - The Forest in New France: a sketch of lumbering in Canada before the English conquest (1939)
- these documents apparently are presently not available online

Great Britain's Wood Yard by Arthur R.M. Lower
McGill-Queen's University Press, 1973, 270 Pages
https://books.google.ca/books?id=WZexAwAAQBAJ&pg=PR8&lpg=PR8&dq=ottawa+river+timber+rafts&source=bl&ots=Lz_N_TCMf3&sig=ACfU3U21gpPKJt2_QMK2Ag_bMMu1MClAsw&hl=en&sa=X&ved=2ahUKEwiO2ejlg4GBAxWpkIkEHfeBASM4MhDoAXoECAMQAw#v=onepage&q=ottawa%20river%20timber%20rafts&f=false
- bits and pieces of the book are available to read at Google books
- the following site provides an intro to each chapter
    https://www.jstor.org/stable/j.ctt1w1vm72?turn_away=true
- topics covered in great detail include the following:
    - background to Britain's interest in wood products
    - Napoleon's blockage of Britain's traditional access to Baltic wood
    - the resource rich North America
    - tariffs, duties and trade policies

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- early lumbermen, Philemon Wright, river rafting
- boom and crash of the wood economy
- timber dealers, historical firms, timber makers
- square timber, deals
- significant names – Booth etc.
- shantymen and raftsmen, and rafting wood down the rivers, timber slides
- port of Quebec, timber coves, cullers, grading, timber fleets

The North American Assault on the Canadian Forest by A.R.M. Lower
The Ryerson Press 1938, 377 Pages
https://archive.org/details/thenorthamericanassaultonthecanadianforest/mode/1up?view=theater
- learned discourse on the history of the timber trade in Canada, as a part of North America, from early 1800s to early 1900s
- a 40,000 foot overview of how national views, politics, economics, forests, topography, immigration, migration/development, transportation and conservation/forest management efforts have affected Canada's timber industry
- considerable content on the Ottawa Valley timber trade
- discussion is supported by data

Big Joe Mufferaw (Joseph Montferrand)
Wikipedia
-approximately equivalent to four pages
https://en.wikipedia.org/wiki/Joseph_Montferrand
- a Quebecois logger from Montreal who garnered fame for his leadership, strength and size
- worked in the square timber trade and rafting in the mid 1800s
- fought with the Irish "Shiners" in Ottawa
- became a legend known as Big Joe Mufferaw
- the following book describes his life in more detail

Ottawa River Timber Trade
Wikipedia
-approximately equivalent to 12 pages
https://en.wikipedia.org/wiki/Ottawa_River_timber_trade#:~:text=The%20Ottawa%20River%20was%20the,or%20more%20sticks%20of%20timber
- short but comprehensive overview of the timber trade on the Ottawa River
- covers most key points - economic, social, ecological – briefly but with good detail

Dumoine Watershed and the Lumber Industry in the Ottawa Valley by Wallace Shaber
July 13, 2013
-approximately equivalent to 13 pages
https://dumoinewatershed.blogspot.com/2013/07/dumoine-watershed-and-lumber-industry_13.html
- first half provides a good, quick overview of the timber trade on the Ottawa River
- includes comments on events that gave start to the industry
- section on laws and policies related to the timber trade and timber rafting
- last half focuses on the Dumaine watershed and its role in the industry

Reclaiming Sunken Timber from the Log Drive by Mike Reynolds
ecohome, July 28, 2021
-approximately equivalent to three pages
https://www.ecohome.net/guides/1473/reclaiming-sunken-timber-from-the-log-drive/
- describes the result of a hundred years of timber rafts passing through Ottawa

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- many logs were lost and sank to the river bottom where they have remained all this time
- they are now being harvested and turned into wood products

The Early Days of Ottawa: Not A Handsome City by Philip Charlebois
Ottawa Life Magazine, March 10, 2016
-approximately equivalent to 11 pages
https://www.ottawalife.com/article/the-early-days-of-ottawa-not-a-handsome-city/
- describes the economic, social and cultural influences that shaped the city of Ottawa
- settlement started in the late 1700s
- various aspects of the timber trade and timber rafting played huge roles in the city's development
- timber history immortalized in street names

Early Life in Upper Canada by Edwin C. Guillet
University of Toronto Press, 1933
Chapter V. – Lumbering
Pages 232 - 251
https://books.google.ca/books?id=APw2DwAAQBAJ&pg=PT52&lpg=PT52&dq=bartlett+timber+slide+and+bridge&source=bl&ots=HKi0ecVXGw&sig=ACfU3U0Lx6xOOYMWTBFCtq_WQTKErLzprA&hl=en&sa=X&ved=2ahUKEwjnieSmqYiBAxXQIlkEHf5jBp84FBDoAXoECAIQAw#v=onepage&q=bartlett%20timber%20slide%20and%20bridge&f=false
- a series of short vignettes about various aspects of life in early Canada
- the chapter on lumbering covers the gamut of activities related to the Ottawa timber trade, life in the camps and timber rafting

Port of Quebec, Section on Timber Trade by Samuel Veniere
The Canadian Encyclopedia, Historica Canada, October 04, 2018
-approximately equivalent to one half page
https://www.thecanadianencyclopedia.ca/en/article/port-of-quebec
- briefly describes the important role that the port of Quebec played in the timber industry of the 1800s
- became one of the largest ports in North America due to the timber trade
- returning timber ships brought immigrants
- value of lumber exports in the 1840s exceeded one million pounds a year

Timber Trade History by Graeme Wynn 2015, Updated by Erin James-Abra and Jessica Poulin
The Canadian Encyclopedia, Historica Canada, July 16, 2013, Updated July 24, 2015
-approximately equivalent to ten pages
https://www.thecanadianencyclopedia.ca/en/article/timber-trade-history
- has good sections that cover the history of the timber trade along the Ottawa River
- covers the global and economic drivers, as well as details of timber operations and timber rafting

Description of a Timber Raft by Graeme Wynn,
The Canadian Encyclopedia, March 4, 2015
-approximately equivalent to one page
https://www.thecanadianencyclopedia.ca/en/article/raft
- very short description of a timber raft and their sizes

Recalling the Days of Rafting on the St. Lawrence River by Richard Palmer
Thousand Islands life.com Volume 16, Issue 6, June 2020
-approximately equivalent to six pages
https://thousandislandslife.com/recalling-the-days-of-rafting-on-the-st-lawrence-river/

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- describes a typical trip on a timber raft from Kingston to Quebec City
- daily happenings on the raft and what the raft encountered along the way
- rafts were made up of drams (similar to cribs)

Hurling Down the Pine by John W. Hughson and Courtney C. J. Bond
Historical Society of Ottawa, 1965, 130 Pages
- history of the Wright, Gilmour and Hughson Families, timber and lumber manufacturers in the Hull and Ottawa Region and on the Gatineau River, 1800-1920
- short review of the book:
https://academic.oup.com/foreconshist/article-abstract/11/3/34/544954?redirectedFrom=fulltext

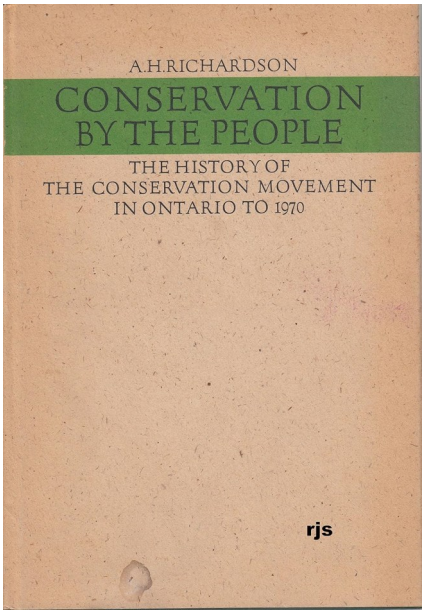
Hurling Down the Pine (song)
Reflections of Canada, Book 1, Page 6, March 11, 2019
Treble Choir, Cypress Studio Singers
https://cypresschoral.com/special-collections/reflections-of-canada-book-one-treble-choir/

From the Archives: Timber rafts would come crashing down river by John Kalbfleisch
Montreal Gazette
-approximately equivalent to five pages
https://montrealgazette.com/sponsored/mtl-375th/from-the-archives-timber-rafts-would-come-crashing-down-river
- describes the passage of timber rafts through the Lachine Rapids west of Montreal and then the trip past Montreal
- details a mishap of a timber raft crashing into the construction cribs of the Victoria Bridge and the ensuing rescue

Remember This? The Last Timber Raft by James Powell
Ottawamatters.com
-approximately equivalent to 11 pages
https://ottawa.citynews.ca/2020/07/06/remember-this-the-last-timber-raft-2542917/
- provides a good overview of the timber trade along the Ottawa River over a century
- describes the day of the last timber raft that floated past Ottawa
- it was a huge tourist event, and many people came out to watch it
- includes interesting photos

Raftsmen – Ottawa Valley
WikiTree
-approximately equivalent to three pages
https://www.wikitree.com/wiki/Space:Raftsmen
- a quick reference
- lists names of prominent Ottawa Valley lumbermen
- describes timber slides, cribs and rafts

Conservation by the People



Editor's Note: The précis of the final chapter of *Renewing Nature's Wealth* appeared in Volume 14, Issue 1, Spring, 2023 of *Forestory*. In this issue, we start *Conservation by the People* with a précis of the Foreword, Introduction, and Chapter 1.

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

Precis of the Foreword, Introduction and Chapter 1
By Sherry Hambly

Foreword
This publication is a history of the conservation movement in Ontario that arose out of grave concerns about the desecration of the natural resources of the southern part of the province. People realized that a coordinated, comprehensive and encompassing approach was required. The Guelph Conference of 1941 brought conservationists together and resulted in the creation of the Ontario Conservation Branch in 1944 and the passage of the *Conservation Authorities Act* in 1946.

Dr A.H. Richardson was the first director of the branch. Ross G. Lord, formerly Chair of the Metropolitan Toronto Region Conservation Authority, was an important consultant in hydraulic engineering. After Richardson retired in 1961, the Committee of Conservation Authority Chairmen requested that he write a history of the conservation movement, which resulted in this book.

A.S.L. Barnes, who assisted Richardson in the writing of the book, was a forester who had worked for him previously. Barnes eventually became Director of the Conservation Branch for the period 1961 to 1970.

Barnes and Lord edited the manuscript after Richardson's death in 1971.

The history is published under the auspices of the conservation authorities in Ontario.

C.G. Caswell
Chairman of the Chairmen's Committee
of Ontario Conservation Authorities
Sudbury, 1974

Introduction
The conservation movement in Ontario was considered to be unique - two key organizations and dedicated professionals in the resource field were the driving forces behind the movement. A key driver of providing work in the conservation field for returning servicemen did not come to fruition. But the forces behind this plan continued to push for conservation measures. The foresight and perseverance of key people in the movement was assisted by dedicated, professional staff of the Ontario government.

The devastation wrought by Hurricane Hazel was the shock that impelled governments to action. It led to the passage of the *Conservation Authorities Act* of 1946, and the eventual creation of 38

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Authorities. Three basic principles provided the structure that supported the successful implementation of the authorities: 1) local initiative; 2) cost sharing; and, 3) watershed jurisdiction.

The flexibility of individual authorities to meet the needs of their local areas was a key factor in their success. The Chairmen's Committee was another key support to ensure the success of the authorities, providing coordinated program efforts and one voice to the provincial government. The cost has been very reasonable. Dr. Richardson was a leader in the Ontario government for the period from 1944 to 1961 in support of the initiatives related to conservation through the authorities. He is aptly named "Mr. Conservation".

The Foreword ends with this quote: "The work of conservation will never end".

G. Ross Lord
Former Chairman, MTRCA

Chapter 1 The Gestation of an Idea

Interest in conservation in southern Ontario provided the impetus for the development of several naturalists' clubs. Eventually it was realized that a more coordinated effort of these clubs would enhance conservation activity. In 1931, J.R. Dymond proposed, at a meeting of the Brodie Club in Toronto, that these clubs work cooperatively to promote conservation. This action led to the creation of the Federation of Ontario Naturalists (FON) in May, 1931. This organization blossomed. The membership grew from seven individual clubs to 45 by 1970. The FON was very active in promoting conservation in a variety of ways through various field activities, publications and education. One of their key projects was the survey of King Township, the results of which were published in "The Natural Resources of King Township", 1938.

A plan of action was prepared for rehabilitation of the township that included tree planting, erosion control, education and others. Both the provincial and federal governments were approached for financial support, which was declined by both levels of government. Ontario did contribute over 400,000 seedlings for reforestation projects.

The Ontario Conservation and Reforestation Association, formed in 1936, and supported by the London based Farmer's Advocate magazine, was another organization active in the conservation area. The article titled "A New Reforestation Policy for Ontario" published in the Farmer's Advocate provided an impetus for local groups in southwestern Ontario, along with provincial government representatives, to meet in London in December of 1936 to discuss moving conservation forward after 50 years of talking about it. This meeting spurred groups in the central and eastern parts of southern Ontario to hold similar meetings. The result of these meetings was the creation of the Ontario Conservation and Reforestation Association. Local governments enthusiastically supported this organization, and gave credit to the press for their excellent support of conservation. Their key method of garnering support was through field days and conservation tours. They also provided support to schools through a variety of publications. They had considerable influence on the provincial government, which supported them in non-financial ways.

This organization existed from 1936 to 1954 and was responsible for several key initiatives in the conservation area, including the creation of a soils department at Ontario Agriculture College, the completion of the "Ganaraska Report", the implementation of the Conservation Branch in the provincial government, the enactment of the *Conservation Authorities Act*, the establishment of several conservation authorities, passage of the *Trees Conservation Act*, development of two tree nurseries and an increase in tree seedling stock, appointment of district foresters for southern Ontario, amendment of the *Assessment Act* regarding reforested lands, publishment of the Select Committee of the Legislature on Conservation and the formation of the Conservation Council of

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Ontario.

One project in particular highlights the organization's efforts regarding conservation. At their annual meeting in 1941 there was much discussion on how to assist returning soldiers by involving them in conservation projects. The project was named The Guelph Conference. Several key conservation and forest organizations were involved. They established four key objectives, including – coordinate conservation programs, provide specialist conservation advice to governments, support implementation of conservation efforts, provide information on the status of renewable resources and the need to rehabilitate them. These objectives were further discussed in the publication *Conservation and Post War Rehabilitation*. Four key approaches were included in this document: 1) description of existing conditions; 2) summary of the unhealthy state of the natural resources; 3) description of necessary action; and 4) difficulties.

The federal government established The Advisory Committee on Reconstruction in 1941 to plan for post-war management of returning soldiers. One of the subcommittees (Conservation and Development of Natural Resources) was focused on how conservation projects could support this need.

Ontario chose to promote a survey of the Ganaraska River Watershed as its key conservation project. The project was led by the Ontario Interdepartmental Committee (chaired by A.H. Richardson) and financed by both levels of senior governments. Due to the lack of students to work in the field, school science teachers were enlisted to conduct the survey. Lack of enthusiasm by parts of the Ontario government caused a delayed start to the survey, which began in late July, 1942. Many prominent officials were interested in the project, which led to a tour in the fall. A 450 page report on the results of the survey was delivered to the Ontario government in June of 1943. The report concluded that the rehabilitation of the watershed would provide work for 600 men over two years. The work would include projects on woodlot improvement, tree planting, erosion control, dam construction, creation of recreational centres and farm improvement. The report was written to appeal to a wide audience, with the intent to educate and gain support for this kind of conservation work.

The report was considered a landmark in Ontario conservation literature. The Honourable Minister for Lands and Forests, Dana Porter, told Richardson, "This is a classic". The report contained 25 recommendations covering legislation, employment, surveys and records. Recommendation No. 2, to enact legislation to support Ontario municipalities in their conservation efforts, led to the passing of the *Conservation Authorities Act* in 1946. While the report did not result, as intended, in providing work support for returning service men, it did provide a comprehensive and re-invigorated approach to conservation in southern Ontario.

The Interdepartmental Committee was disbanded in 1946. None of the recommendations to provide support for returning servicemen through conservation work projects was implemented.

Note 1: This book can be accessed digitally through the Internet Archive: https://archive.org/details/conservationbype0000rich/page/18/mode/2up An account is required to read the full book. Loans are available for one day or 14 days.

Note 2: The book contains a myriad of names and photographs of conservation minded individuals in Ontario. There are too many to include in this precis.

Note 3: Paul Masterson has written a biography of A.H. Richardson titled “Herbert Richardson”, published by Fitzhenry and Whiteside, Toronto, 1992.

In Memoriam — Mike Innes

Please Pray for the Family of
MIKE INNES

Peacefully, with dignity and grace on Monday, August 14, 2023, Michael Ronald Innes passed away at Terrace Lodge, Aylmer in his 81st year.

Predeceased by his loving first wife Pam (2011). Beloved husband of Ruth Ann Quick. Supportive and caring father to his daughter Yvonne and her husband George Stoeckner. Proud grandfather to Peter, Michael, Terri and Leah Stoeckner of Ridgetown. Step-father of Adrian Quick and his wife Melissa and their children Abby and Mason, of Houston, Texas; Ian Quick and his wife Sabrina and their children Maddy and Penny of Ottawa. Brother-in-law to Reg Willson. Loving Uncle to several nieces and nephews.

Mike lived his life with purpose, tenacity and realistic optimism. He graduated with a Bachelor of Science in Forestry, a Master of Science in Forestry and a Master of Business Administration, all from the University of Toronto. Mike's career took him from boots on the ground managing forests to becoming an executive vice president in the pulp and paper industry, travelling the world. Mike will be remembered for his witty sense of humour and his true love for the outdoors.

Friends and relatives will be received at St. John's Anglican Church, Tillsonburg on Friday, August 18, 2023 from 10:00 am – 11:00 am. The Funeral Service for Mike will be held at St. John's Anglican Church, Tillsonburg at 11:00 am following the visitation. A reception will follow in the Church Hall. All are welcome.

Memorial donations to St. John's Anglican Church, Tillsonburg or St. Charles of Dereham would be appreciated by the family.

Condolences and memories may be shared at *www.ostrandersfuneralhome.com*

Forest History Ontario

Membership Form

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.

Forest History Ontario

Projects of the FHO

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

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

Forestory Journal: FHO publishes a journal available to its members, the *Forestory*, twice a year – Spring and Fall - containing informative articles on foresthistory In Ontario.

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

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

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