1840-1896 (#5) Federal System - Changes in Timber, Farm and Dairy Industries

For a continued exploration of essential questions like:

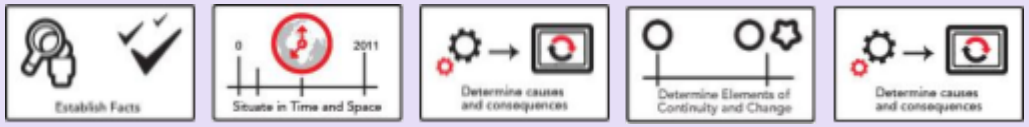
Did the lives of people in the 19th Century get better or worse? ***How did Industrialization change society?***



Image source: Flickr user Internet Archive Book Images "Canadian forest industries 1886-1888" via www.flickr.com under No known copyright restrictions

>> LEARNING INTENTIONS	Success Criteria
To explain how industrialization changed the timber industry.	I can explain how industrialization changed the timber industry.
To indicate the main areas of the timber industry on a map.	I can indicate the main areas of the timber industry on a map.
To explain how industrialization changed the farming industry.	I can explain how industrialization changed the farming industry.
To explain the impacts of industrialization and urbanization on the dairy industry?	I can explain how industrialization and urbanization impacted on the dairy industry

>> POSSIBLE INTELLECTUAL OPERATION EVALUATION TARGETS



>> GENERAL INSTRUCTIONS

The documents below are curated, collected and shared by teachers to support basic *learning intentions* listed in various colours above. These learning intentions are personal wordings of what is expected of students, and are inspired by or more often drawn specifically from Matt R.s Learning Intentions while piloting in the QEP History of Quebec & Canada program. These intentions were *created* in response to specific knowledge (or a combination of knowledge items) in the preliminary version of the History of Québec and Canada Program of January 2016. As well, these intentions also attempt to address one or both competencies, to vary tasks in terms of complexity, and to offer opportunities for evaluating intellectual operations.

In Matt's original learning intentions curriculum map, this collection's intentions were intended to be covered in one to three class periods, including preparatory reading/viewing and follow up exercises. Note that a teacher (or students) can use these documents in many ways! and even in a flipped classroom approach where the teacher presents these documents beforehand (in a video for example) for home viewing.

A few sample learning strategies are often *suggested* to help teachers start working with these documents and learning intentions.
Occasionally learning strategies and discussion questions are also noted *within* the specific document pages themselves.

Note: This collection and any learning activity suggestions are very much works in progress. They are shared here only to provide some starting points, and text and image sources you might use in these or other learning contexts. Image copyrights are still being checked, though most are in the public domain or are intentionally low resolution and offering links to the original sources.

>> SUGGESTED ACTIVITIES

Competency 1 Task Suggestions
Characterize the regions and their early development by mapping key places in specific areas and describing routes to the areas, as well as mapping the location of forests, early mills, etc.
Use selections from the first sets of document pages in our collection, which begin by highlighting key areas that developed further because of colonization, the availability of timber, and the ease of access to it due to its location (rivers in particular !)
Then further characterize the period by explaining why these specific locations were chosen. (i.e. you are beginning to indicate the changes due to industrialization which influenced settlement even in these early years.)

Intellection Operations:
Situate in Space and Time; Establish Facts

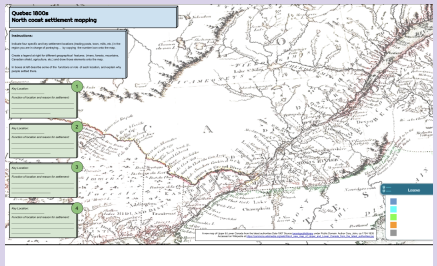
Basic Mapping Project task idea
- Map out ONE area of development, i.e. one region, and this could be your own region if appropriate?!
- Note on legend then on map any land features, where possible. (forested areas, farming along rivers, rivers, Canadian shield, etc.)
- Note on legend then on map natural transportation routes
- Identify locations for early sawmills, settlements, fur trading posts, etc
- Either within points marked on the map (i.e. using a tool like Cartograf or Google Maps), or in space available on a large enough printed map, indicate why settlers chose that given location, and interpret reasons why people settled in that region. (ex. Pulled for fur then timber, pushed from other areas, immigration trends, etc.)

A mapping organiser such as "Quebec Regional Mapping -- Where & Why ex. Quebec Regions for Timber" could be used.
Click to download a PDF version for printing to 11 by 17 paper!
Click to create your own copy of the Google Slide to use online.
Click to download a Powerpoint version if needed.

Alternatively, this blank Cartograf map could be used and is available to be copied and edited as needed.
Sample instructions are already inserted.

To explain how industrialization changed the timber industry.

To indicate the main areas of the timber industry on a map.





Competency 1 and 2 Task suggestions

To explain how industrialization changed the timber industry.

To indicate the main areas of the timber industry on a map..

Intellection Operations:
Determine causes and consequences; Determine changes and continuities

Students read the appropriate documents and use an organizer to:
respond to questions like:
What aspects of industrialization impacted on the timber industry?
What specific elements of the timber industry changed?
(i.e. Students consider the different tools, technology, methods, transportation, people, location, markets, etc.)

Competency 1 and 2 Task Suggestions

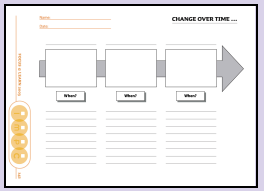
To explain how industrialization changed the farming industry.

Intellection Operations:
Determine causes and consequences; Determine changes and continuities; Similarities and differences

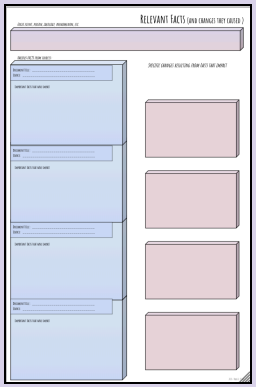
Students read the appropriate documents and use an organizer to:
respond to questions like:
What aspects of industrialization impacted on the farm industry?
What specific elements of the farm industry changed?
(i.e. Students consider the different tools, technology, methods, transportation, people, location, markets, etc.)
How do changes in the farming industry compare to changes in the timber industry? Dairy industry? Etc.

Example organizers from LEARN Graphic Organizers that teachers could adapt:

Change over time



Relevant Facts (and specific changes they caused)



Competency 1 and 2 Task Suggestions

To explain the impacts of industrialization and urbanization on the dairy industry?

documents.recitus.qc.ca

Read the appropriate documents provided here, and…

1) Read and use the documents here **and** on the following RECITUS task to
   1- Clarify how the milk industry developed in the 19th century
   2- Clarify the link these themes have with urbanization and industrialization
   3- Answer the question: *What are the impacts of industrialization and urbanization on the dairy industry?*

Visit this separate document collection and task at "What are the impacts of industrialization and urbanization on the dairy industry?"

Competency 2 Project ideas Choiceboard

This is an early version of how a choiceboard might be used that allows students to choose a project, a region, and even start thinking about what Intellectual Operations might be involved in their research and building processes!

Learning Goals
To explain the impacts of industrialization and/or urbanization on a regional industry. (Place)
To respond to questions like: ***Did the lives of people in the 19th Century get better or worse? How did Industrialization change society?*** (People)

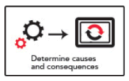
Build

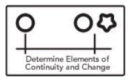
Internalize

REGION ➡ Project idea ⬇	Lac St. Jean	Matapedia	Cantons de Sud-Est	Gatineau	Abitibi	?
Layered timeline (General effects or oa specific group)						
Video Portrait (Of regional industry and specific group)						
Podcast Interview (Of industry representative and rep from specific group)						
Personal letter (From the position of one or two reps from a specific group)						

Claim your space by Dragging an I.O. (or two) that you will evaluated upon! ➡











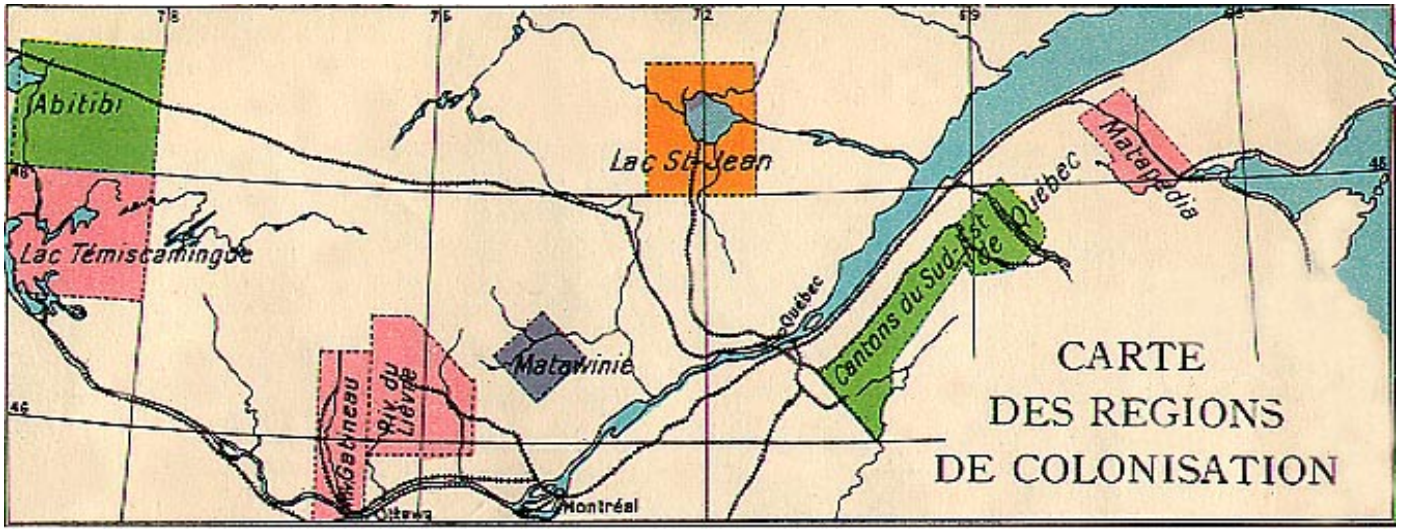
>> DOCUMENTS SUPPORTING INDICATED LEARNING INTENTIONS:

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Remember:
New areas were being colonized during this time period --
North of the St. Lawrence !

"... after the 1850's, colonisation began in several peripheral regions. Slowly, French-Canadians began to farm in the Laurentians, the Saguenay-Lake St-John, the Lower St. Lawrence and the Matapedia Valley, certain forested or unexploited areas of the Ottawa Valley and the Eastern Townships, and, eventually as far north as the Temiscaming. In the last quarter of the 19th century, French Canadians would also begin to emigrate to Eastern Ontario, and, in smaller numbers, to Manitoba, Saskatchewan and Alberta"

Source and more information at:
faculty.marianopolis.edu/c.belanger/quebechistory/readings/leaving.htm



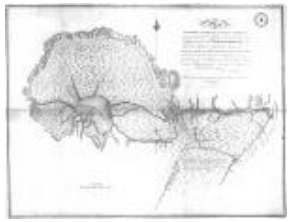
Map originally from: *Les Frères Maristes, Atlas-Géographie. Étude physique - Politique, Économique du Canada et de la Province de Québec* , Montréal, Granger Frères Ltée, 1930 [1923], p. 49 (Presumed that copyright has expired)

Image source, contexts, and larger version at *Map of the Colonization Regions of Quebec*
Carte des régions de colonisation de la province de Québec. 1923 http://faculty.marianopolis.edu/

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Example of new areas of colonization: Saguenay-Lac-Saint-Jean

"In the middle of the XIXth century, the vocation of the region changed with the arrival of social professional groups. The region was settled while the fur and agricultural businesses slowed down in the Saint-Lawrence River Valley. The forest industry took advantage of this situation to develop while England resorted to its colonies for wood supplies. A group of individuals from Malbaie and Baie-Saint-Paul in the Charlevoix region exploited the bountiful forest while solving the problem of overpopulated land. They met with government authorities to acquire lumber cutting rights for the Saguenay-Lac-Saint-Jean region. The Société des Vingt-et-Un was then founded and got its cutting permit in October, 1837. In the spring of 1838, Thomas Simard's schooner left Malbaie to drop off men at Petites-Iles, Anse-au-Cheval and Anse-Saint-Jean. In each sector, they quickly began building the first sawmills. Then fourteen men landed in Grande-Baie, the future Saint-Alexis parish, on June 11, 1838. They built a shanty and began exploring the pine forest between the Ha ! Ha ! River and the Mars River. The Saguenay lumberjack House of Patrice Fortin In October of the same year, another group of men, women and children settled in Grande-Baie. This event marked the beginning of permanent settlement in the Saguenay region. The first weeks were very hard: less white pines than foreseen, thick clouds of mosquitoes, harsh climate, disease and deaths. In spite of this, the colony increased to 67 persons including five families in a few months only. The newcomers got organized quickly! Photo Price Brothers & Co. They built a dam near the mouth of the Ha ! Ha ! River and cut the lumber required to build a sawmill. To provide transportation for themselves and their wood, the pioneers started building schooners. With the advantages provided by the Saguenay sea route, the economy was centred on the Bagotville wharf that local entrepreneurs also benefited from. The Grande-Baie wharf was also used to load lumber being shipped to England for the wealthy William Price. The seasons determined the survival of the families. In the fall, the lumber camps were the only source of subsistence for the settler and his family. In the spring, it was timber driving down the river. Then in the summer, it was basic agriculture on the farm. In spite of the austere life and environment, more than a thousand inhabitants settled in the three urban poles by 1845: Grande-Baie, the shores of the Mars River and Anse-à-Benjamin. The religious and school institutions followed the growth in population. As soon as the economy improved, parishes opened and schools were built. With the ten sawmills and the three villages of Anse-Saint-Jean, Grande-Baie and Bagotville, the region quickly expanded its economy." Source: Settling (1838 à nos jours) - Virtual Museum



Carte du Saguenay-Lac-Saint-Jean ava...



Carte régionale de la province de Qu...

Source and larger images at:
The Cultural and Culinary Voyage of the "Gourgane" www.ameriquefrancaise.org/



Source: Fêtes du 175e anniversaire du Saguenay-Lac-Saint-Jean via https://www.pinterest.ca/pin/206813807860458986/ (original source unknown)

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Example of new areas of colonization:
Western Quebec up the Ottawa river
(both sides, Ont and Quebec)

"Log rafts descended the Ottawa even before it ceased to be the prime route of the fur trade. Philemon Wright showed that the route was feasible in 1806, and the British demand for pine grew. In 1854, the Reciprocity Treaty secured free access for Canadian lumber into the US market. The timber trade pervaded the social life of the valley. Armies of men lived in crude shanties during winter and descended on civilization with their rafts in spring. Competition among shanties and between French and Irish led to feuds and violent clashes (see Shiners' Wars). After the completion of the Rideau Canal (1832), Bytown (later Ottawa) grew to be a major lumber centre on the river. Though a few timber barons, such as E. B. Eddy and J. R. Booth, made fortunes, many lumbermen and Irish labourers lived in poverty and disease. The industry swept up the river and its tributaries. By 1828, there was a lumbering operation at the future site of Pembroke. After 1850, cutting reached the Madawaska River, and by the 1870s, the western shores of Lake Timiskaming. Railways challenged the river by the 1850s, carrying lumber to Brockville and Ogdensburg, New York. By the 1870s, rail lines reached Carleton Place, Renfrew, Almonte and Pembroke. Steamers plied the river with goods and passengers, aided by a canal at Carillon, which permitted uninterrupted travel from Montreal to Ottawa."

Source and more information: Marsh, James H. and Nathan Baker. "Ottawa River". The Canadian Encyclopedia, 13 November 2018, Historica Canada. thecanadianencyclopedia.ca/en/article/ottawa-river . Accessed 28 February 2019.



Interactive map of the Ottawa River created by *Canadian Geographic* and the Chawkers Foundation (2018).
The Ottawa River watershed Thinglink available here and via Article Ottawa River at Canadian Encyclopedia

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Example of new areas of colonization:

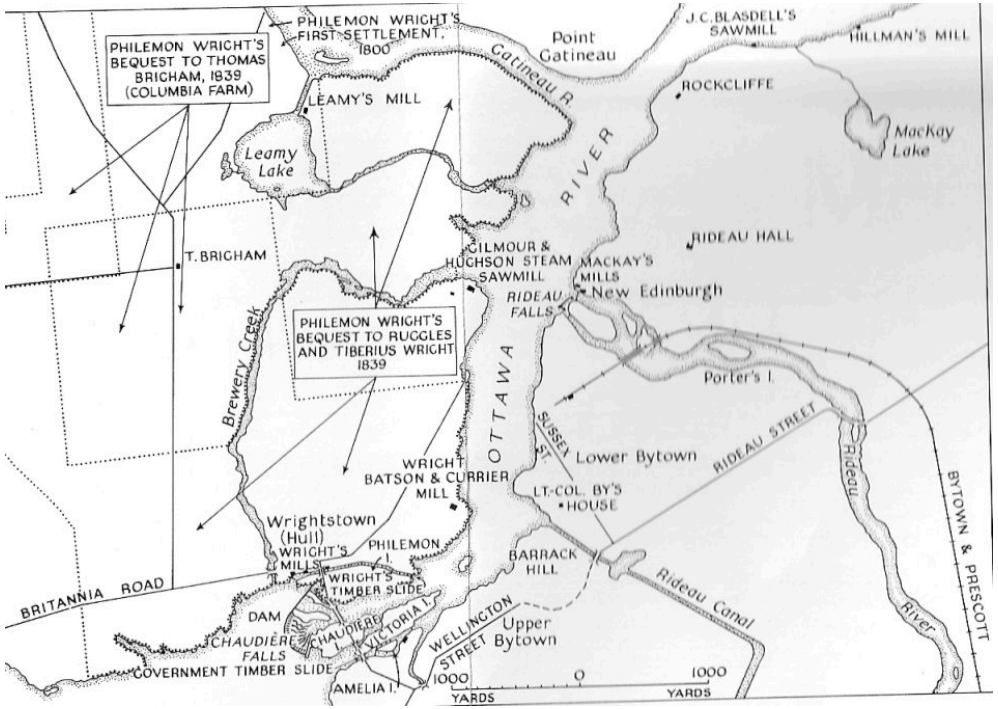
Western Quebec up the Ottawa river (both sides, Ont and Quebec)

"In the 1830's immigrants were catching wind of the opportunities for settlement in the Gatineau region; families came in large groups for support. One such group was headed by William Farmer, who came from Bridgenorth, Shropshire, in the year 1834. The entourage Farmer brought with him included his family and a housekeeper, a lawyer, a tutor, a millwright, a waiter and his family of seven, a gardener and seven family members, and a general purpose man with his nine relatives, in addition to the livestock and financial resources to support the fifty-six immigrants, that was typical of a wealthy immigrant of that time. Despite his retreat to Upper Canada in 1846, William Farmer's endeavour resulted in the naming of Farmer's Rapids where his settlement landed on the Gatineau River"

Source and more information at: https://www.gvhs.ca/gatineau/founders.html

"All through the 19th century, logging companies cut timber along the tributaries of the Ottawa. The first raft of squared timbers went down to Quebec in 1806. In the 1840s, the camps began to provide logs for sawn lumber. Sawmills sprang up wherever water power was available. Hurling Down the Pine gives the history of the logging companies from the Wrights and Gilmours of the Gatineau to J. R. Booth and Gillies, two of the latest and largest companies logging in the north-west area of Pontiac County. When the original stands of pine had been depleted, logging was done for pulp, using younger trees and advanced procedures that put an end to shanty-life. However, logs floated down the Gatineau to the Canadian International paper Company until the early 1990s."

Source and more information at:
http://outaouais.quebecheritageweb.com/article/lumber-camps-gatineau-and-pontiac



Map Source: Hurling Down the Pine, by Bond and Hughson, inside back cover via
A Digital History of Eastern Ontario and Western Quebec, Canada Including the Cities of Ottawa and Hull / Gatineau 1600 to 2015 www.bytown.net

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To indicate the main areas of the timber industry on a map..	I can indicate the main areas of the timber industry on a map.	❑
To explain how industrialization changed the farming industry.	I can explain how industrialization changed the farming industry.	❑

Example of new areas of development for both agriculture and timber:

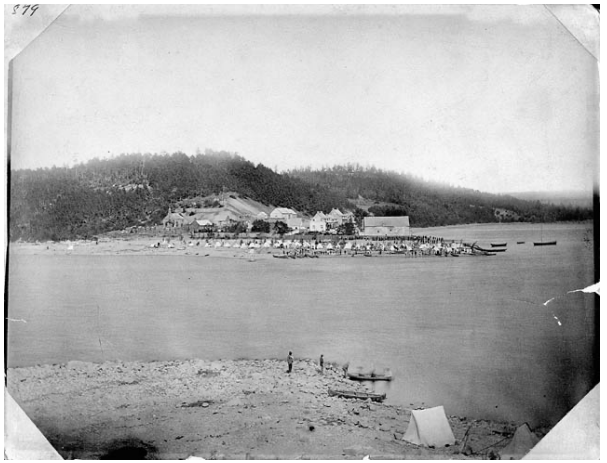
Western Quebec up Ottawa river (both sides, ont and quebec)

"As the eighteenth century drew to a close, the fur trade's major posts and trapping hinterland were centred in the north and west, tapping the area around Hudson Bay and the Great Lakes. The fur trade had begun to consolidate under British control, and two principal--and rival--merchant groups, the North West Company and the Hudson's Bay Company competed until their merger in 1821. Other changes were soon to come in settlement and trade policies. By the turn of the century, westward expansion of European settlement, previously opposed by governments concerned about its potential interference with the fur trade, was encouraged.(5) The Gatineau region and adjacent areas were opened to settlement in the 1800s. Timber and wheat now surpassed fur as export products, as fur supplies were depleted, fashions changed, and the Napoleonic wars disrupted European markets. Still, fur was a "cash crop" and supplement to other economic activities in frontier areas, and both native people and new settlers in the region engaged in fur trapping during the nineteenth century."

Source and more information at THREE CENTURIES OF THE FUR TRADE, PASSING BY THE GATINEAU REGION

"The settlers' arrival sets the stage for the closing of the trading posts. The squatters and pioneer farmers both become suppliers of foodstuffs for the shanties, cutting into the profits of the trading post's farm. As a result, the profit-earning capacity of the trading post as a whole is greatly reduced. It is finally closed down and sold. This scenario explains how the Ottawa River trading posts shut down one after another, as the timber trade and agricultural settlement spread northwards. The Chats Post near Quyon was the first to close in 1837, followed by Fort-Coulonge in 1855, Old Fort William in 1869, and Old Fort Temiskaming in 1891. Two of the oldest outposts of the Hudson's Bay Company followed suit. The Lac des Sables Post at Notre-Dame-du-Laus was closed around 1849. As a substitute the HBC opened a store in the Village of Buckingham. The small River Desert Post, on the site of Maniwaki, was closed down around 1870. The drop in the fur profits of the trading posts explains the decline of the fur trade and these lower profits were due to the northward advance of the bush operations of the timber firms and of agricultural settlement."

Source and more information at www.histoireforestiereoutaouais.ca/en/b2/



Fort Temiscamingue as seen from across Lake Timiskaming, Source: Library and Archives Canada under the reproduction reference number Acc. No. 1966-094 and under the MIKAN ID number 3257337 via https://fr.wikipedia.org/

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Example of new areas of development for both agriculture and timber:

Western Quebec up Ottawa river (both sides, Ont and Quebec)

Agriculture and colonization are closely linked to the forest industry. The progress of settlement up-river along the tributaries of the Ottawa River followed on the heels of the lumber entrepreneurs. (image) Many of the men who go went to the shanties ended up settling down with their families near the lumber camps that hired them. In winter they worked in the shanties and from spring to autumn they toiled at clearing their land and sowing their first crops. When they were firmly settled they become suppliers of the lumbering firms that operated the shanties. These companies bought part of their harvest, rented their horse teams and left the firm's oxen and horses under their care during the summer months.

Source and more information: www.histoireforestiereoutaouais.ca/en/b13/

"Gatineau Valley North: Settled for Forests and Fortunes While we may think of the forests of the Gatineau Hills as beautiful places, it was their value as wood that brought people to settle the region. In the early and mid-1800s, when more accessible lands along the Ottawa River were already taken, adventurous souls ventured up the Gatineau River to seek their fortunes. They established farms, logged the forests, and sent their lumber downriver.

Gatineau River Timber Limits (ca. 1890)
In 1843, the Crown Timber Office sold the first timber limits to lands along the Gatineau River. Businessmen such as the Gilmours and the Hamilton Brothers soon purchased the rights to log large tracts of land and set up shanties, or logging camps, in these areas. By 1890, when this map was created, the timber rights to most of the forested areas along the Gatineau River had been granted."

Source and more information: https://www.gvhs.ca/digital/articles/low.html



Retrieved originally from Gatineau River Timber Limits (ca. 1890) Presentations and Special Exhibits. Available now as Concessions forestières dans le comté de Gatineau. BANQ in Public Domain

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Hull was a centre for timber and commerce for the region:

Hull was main centre for timber industry in Lower Canada, and it drove the economy of the whole region for 1800s

“Hull was the first permanent town established on the Ottawa River. Wright and his associates were given ownership of large tracts of land in Hull and Templeton townships. The small agricultural community, called Wrightstown, quickly turned to the production of squared timber for the British market. The first lumber raft from the area, the Columbo, reached Quebec City in 1806, heralding the beginnings of the lumber industry in the Ottawa Valley”

Source and more information: Lapointe, Pierre Louis. "Hull". The Canadian Encyclopedia, 19 March 2018, Historica Canada. https://www.thecanadianencyclopedia.ca/en/article/hull Accessed 28 February 2019.



Source: Place du portage II in Hull around 1920 and other photos of Hull at www.pastottawa.com/quartier/hull/

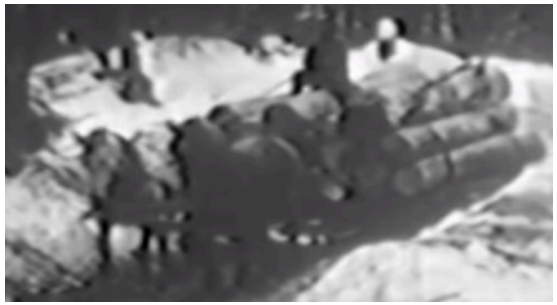
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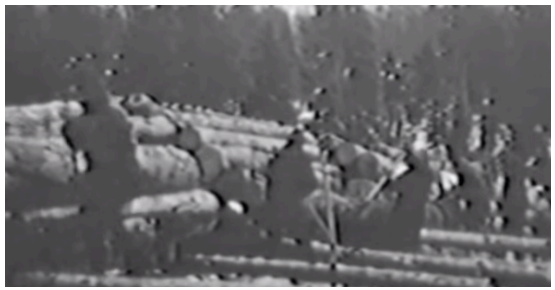
Continuity and change:

Traditional way of getting logs, shanty houses, floating logs, methods, etc.

“Logging Methods Logging was essentially a winter occupation, beginning with the first snowfall. Not only did cheap labour abound during this season, but it was easier to fell trees when the sap was not running, as well as drag the logs through the snow. In the fall, loggers would build camps (see shanty) and clear rough roads for hauling hay and provisions, and for moving logs or timber to the streams. The industry depended heavily on the muscles of men and beasts, as manual logging techniques were used until about 1912. Originally, men enlisted the help of oxen, later switching to horses and continuing with their use until the 1920s. By far the most important innovation was the steam-powered donkey engine, introduced in about 1897 from the US, which could drag logs up to 150 m. Another innovation was the "high lead system," in which a line high over the skids pulled or lifted the logs over obstacles. Trees were normally felled with various types of timber axes (until the 1870s, when the crosscut saw became more common), and "bucked” (i.e., sawed) to stick length. Timber was squared by axemen, because square logs were easier than round logs to store and transport on Europe-bound ships. The process of squaring a log began by “lining” the wood along two sides to mark the dimensions of the desired square, and then “scoring" to remove the unwanted outside wood in rough slabs. From there, the sides of the log were rough-hewn (i.e., coarsely chopped) and then smooth-hewn using broadaxes. The process was then repeated with the remaining two sides of the wood. Before transportation, the ends of the stick were trimmed to a pyramid shape. A snow road eased the hauling of logs and baulks to riverbanks by oxen or horses. With the coming of the thaw, the timber drive began. Men equipped with "jam dogs" (iron hooks), cant hooks or peaveys, and often immersed in chilly water, began the dangerous task of floating the cut-out on streams overflowing with melted snow. When more open water was reached, or where falls and rapids could be bypassed by timber slides, logs and timber were assembled into RAFTS to continue downstream to mills or to river-mouth booms (especially at Québec, Saint John and the mouth of the Miramichi River), from where they were shipped abroad. As steam power replaced water power in sawmills, it increased mill capacity and extended the season of mill operation; however, it did not break the pattern of winter logging. Although railways reduced the industry's dependence on rivers to transport timber to the mills, their initial importance was in carrying lumber from mill to market, and by the end of the century, specialized logging railways still only had a slight impact on eastern Canadian operations.

Wynn, Graeme. "Timber Trade History". The Canadian Encyclopedia, 06 April 2017, Historica Canada. https://www.thecanadianencyclopedia.ca/en/article/timber-trade-history . Accessed 01 March 2019.







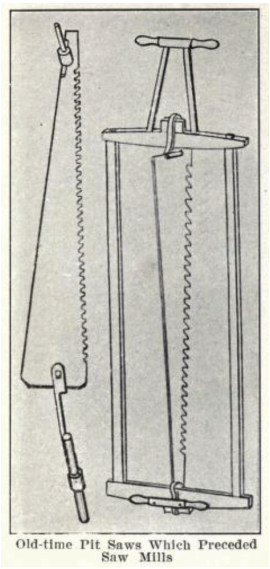
Screenshots from

Logging History North Western Ontario

https://www.youtube.com/watch?v=KR3mGxMsXUo

Learning Intentions	Success Criteria	
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To indicate the main areas of the timber industry on a map..	I can indicate the main areas of the timber industry on a map.	❑
To explain how industrialization changed the farming industry.	I can explain how industrialization changed the farming industry.	❑

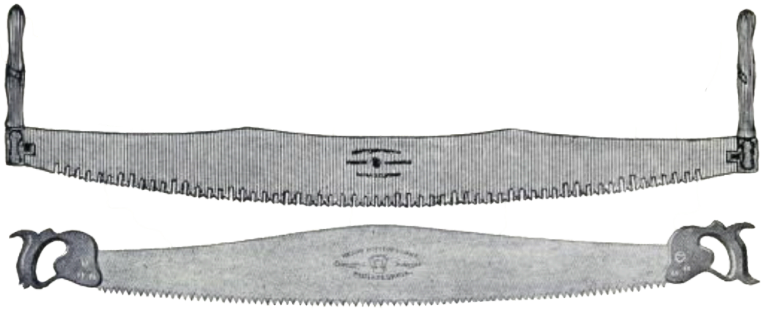
Continuity and change:
Traditional tools, axes, handsaws, carts, floated logs


Old-time Pit Saws Which Preceded Saw Mills

""Axes, crosscut saws, bucksaws and pit-type saws were initially used to fell, buck and saw timber in the Ottawa Valley from the year 1800. Around 1850, the rotary circular saw and gang saw were introduced into the Valley and this assisted the industry to expand for the next 50 years."
Source: Sawmills (HWT Project)

"The lumberjacks of the 1800s performed their difficult and dangerous work without any of the conveniences of modern technology. Instead of chain saws, they used axes and long, flexible saws known as "misery whips." [...] Lumberjacks used two types of axes in the 1800s: a single-bitted or single-headed axe and a double-bitted axe. Some loggers believed the double-bitted axe to be a dangerous choice, and preferred to use two single-bitted axes instead. They would use one axe to get through the bark and the second for the tree itself.[...] Up until the 1880s, lumberjacks felled trees with axes. The custom of using the cross-cut or "misery whip" saw began in Pennsylvania and spread from there. The unhappy name for this tool comes from the difficulty and frustration of using a saw that they could not keep sharp enough. Misery whips came in a variety of sizes, depending on the tree to be cut down. The saws ranged from the one-man saw (which could be as short as three feet) to the two-man saw (which could be as long as 16 feet). Felling saws were the flexible and relatively light saws lumberjacks used for cutting the trees down. Bucking saws were the heavier and less-flexible saws used for cutting logs on the ground.

Source: Lumberjack Tools of the 1800s Scott Thompson https://www.theclassroom.com/lumberjack-tools-of-the-1800s-12082940.html



Source: The saw in history; by Henry Disston & Sons, Inc. (Philadelphia, Pa.), page 13 and 20, 21 at https://archive.org

"The cross-cut saw also called a whipsaw or two-handed saw: This long saw has a wide blade, generally thicker in the centre, with handles at both ends. It is used for cutting down trees and for cross-cutting tree trunks."

Source and image source: Log-drivers, get your tools and go! www.histoireforestiereoutaouais.ca/en/c4/#11

See also Early pit saws. From John Dunfield's " Artifacts and Remnant's of 200 Years of Lumbering in the Ottawa Valley. Vol. I. via Sawmills (HWT Project)

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Ottawa River area was industrialized on both sides:
because 1) rivers from north floated there -->
nd 2) falls like Chaudiere falls provided power to sawmills here



The Chaudière Falls and Chaudière Island in 1838 before damming via Wikiwand at http://www.wikiwand.com/en/Chaudi%C3%A8re_Falls



By Flickr user Ross Dunn:
at https://www.flickr.com/photos/rdb466/16977463495 under CC license /by-sa/2.0/



This is a map of the Ottawa River drainage basin, created based on USGS and Digital Chart of the World data. 2007 commons.wikimedia.org/wiki/File:Ottawarivermap.png

Stories: OTTAWA RIVER SEA SERPENT !

"Along the Ottawa River near Arnprior the waters widen as they stretch north, resembling more of a lake than a river, hence it being given the name Chats Lake. It reaches from the once mighty Chats Falls, now dammed for a hydro station, northwards to more rapids at Portage Du Fort near Renfrew. Bookended by these two waterfalls, this 30km long lake was the scene of much logging and timber transport during Ottawa's lumber boom of the mid to late 1800s."

Source and view of 1831 map of Chats Lake, stretching 30km from Chats Falls near Arnprior to Renfrew. Sea Monster in the Ottawa River

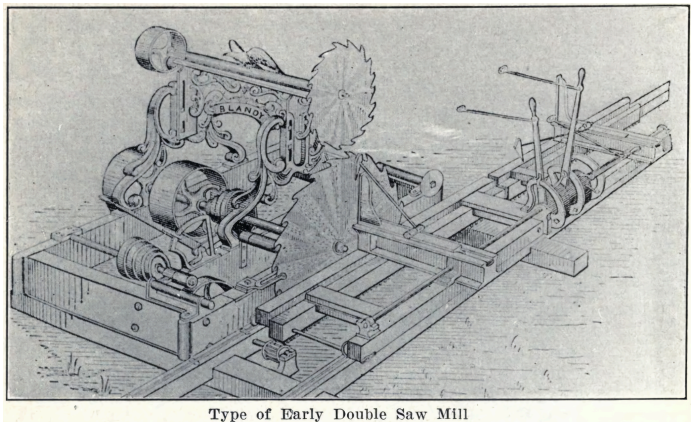
Map at right a deep zoom of Map of the Provinces of Lower & Upper Canada.



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Later pulp and paper factories used steam power

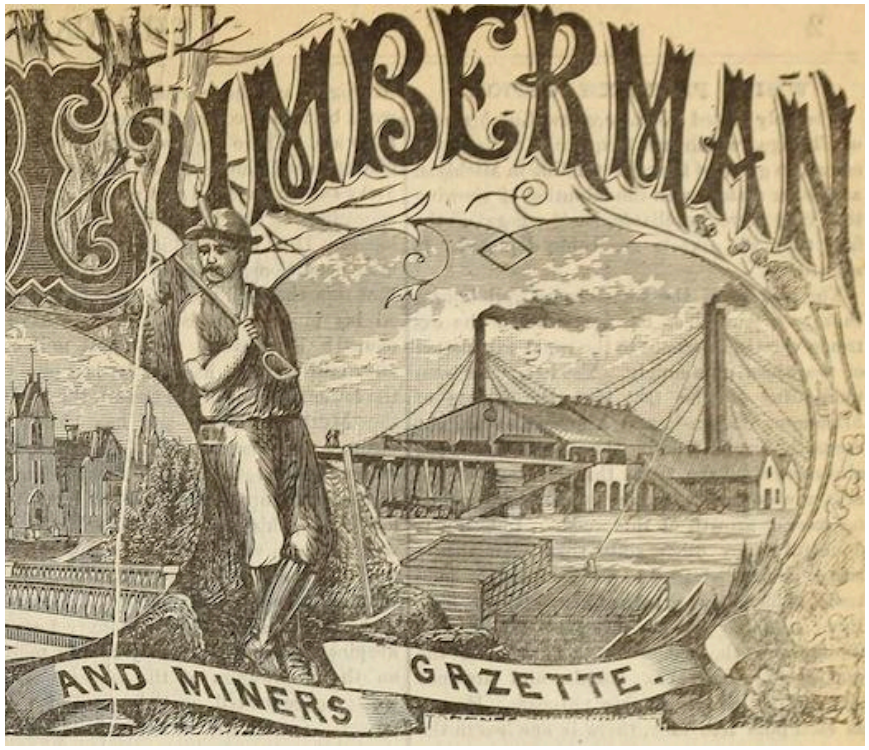
John Dunfield in his “Illustrations and Lumbering Photographs of the Ottawa Valley writes: “Saw-milling techniques evolved slowly in the Ottawa Valley until steam power and the circular saw were adopted by the industry in the 19th Century. The invention of the double-edged bandsaw about the turn of the 20th Century further advanced the saw-milling industry and the creation of the gasoline chainsaw during World War II greatly improved the woodlands operations.” Source: HWT Project on Sawmills http://hwtproject.ca/lumbering/sawmills/



Type of Early Double Saw Mill

"The early circular saws were very crude, With square mandrel holes, and were made only to special order. From 1840, however, progress was rapid—the development of the inserted tooth at about this time being one of the greai- est progressive strides ever taken in saw-making."

Source and image source: The saw in history; by Henry Disston & Sons, Inc. (Philadelphia, Pa.), page 14 https://archive.org/details/sawinhistory00henrrich/page/14/mode/2up



Source: Flickr user “Internet Archive Book Images” flickr.com/ under No known copyright restrictions

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Work as a lumberjack:

McCord Thematic tour
All in a Day's Work: Lumbering in New Brunswick for video

"During the late 19th and early 20th centuries, the lumber industry underwent rapid technological change, which affected the worker's diet and tools, the transportation of timber and the efficiency of the mills. The forest industry became a highly mechanized, year-round operation. Mills producing finished lumber products soon gave way to a prominent pulp and paper industry, while the railway, chain saw, tractor, truck and mechanical harvester changed the world of the old-time lumberjack forever."

Source: All in a Day's Work: Lumbering in New Brunswick
http://collections.musee-mccord.qc.ca/en/keys/webtours/tourID/VQ_P2_8_EN



Source: *Loading Spoolwood near Newcastle, New Brunswick*
About 1895, 19th century © McCord Museum
Under https://creativecommons.org/licenses/by-nc-nd/2.5/ca/

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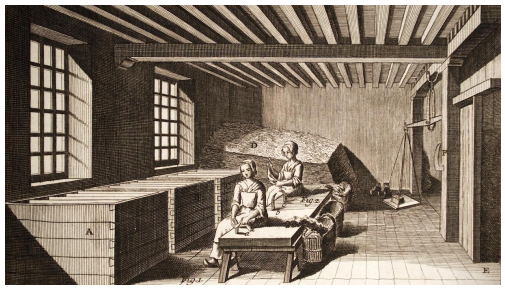
Gradually pulp and paper became more important

"The manufacture of pulp and paper began in Canada in the early 1800s, with the first paper mill reportedly established in Argenteuil, Quebec in 1805. For roughly the next half century, paper production remained a relatively insignificant component in the colony's ..economy ... Because paper was made largely from rags, mills were located in or near urban centres, from which supplies of raw materials could be most easily obtained. The paper plants were also situated on major rivers, whose energy was needed to grind and process the rags into paper….

Technological changes and other factors revolutionized the manufacture of pulp and paper over the last quarter of the nineteenth century. The critical element in this process was the conversion of the industry to wood fibre, which was exponentially more abundant (and thus far cheaper) than rags. Complementary developments in the fields of generating and transmitting hydro-electricity allowed industry to harness far greater quantities of energy. At the same time, a rapidly rising literacy rate and the growth in the number and size of newspapers created an immense demand for newsprint. These forces all contributed to a dramatic increase in the number and productive capacity of pulp and paper mills, which resulted in a precipitous decline in newsprint prices. By the late 1890s it was selling for under $40 per ton."

Source: PULP AND PAPER IN CANADA: Its First Century Pulp & Paper Canada April 30, 2003 By Pulp & Paper Canada

pulpandpapercanada.com/



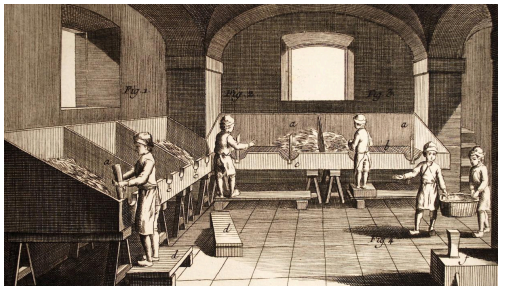


Figure 2. Sorting rags into grades of varying quality and strength Figure 3. Cutting rags into smaller pieces and removing buttons, pins, and other foreign matter.
Source: Encyclopédie, ou Dictionnaire raisonné des sciences, des arts et des métiers, vol. 5 (plates), eds. Jean-Baptiste le Rond d'Alembert and Denis Diderot (Paris: Briasson et al., 1751–65). Image scans used with permission from European Papermaking Techniques 1300–1800 /paper.lib.uiowa.edu/european.php accessed 6 October 2020



La pulperie de Chicoutimi, un site du patrimoine industriel québécois

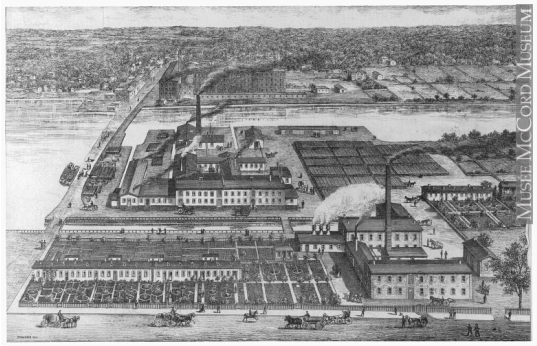
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Canada's pulp and paper industry birth

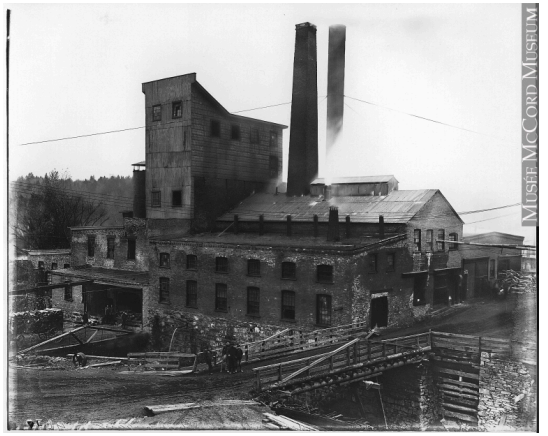
Canada's pulp and paper industry was born in the early 1800s. During its nascent years, the industry was relatively tiny, diversified and localized. Initially, the need for paper was met by importing it from the United States. But as the colony's population grew, so too did demand for paper, spurring the industry's growth. Paper producers were initially clustered in the urban centres of Ontario, Québec and Nova Scotia. They located there to be near their raw material (rags) and markets, and most were erected by newspaper proprietors. The first of these enterprises was built over the course of 1803–1805 by James Brown. His Argenteuil Paper Manufactory in St. Andrews East (near present-day Montréal) was associated with the newspaper now known as the *Montreal Gazette*.

The development of Canada's modern pulp and paper industry took place in the second half of the 19th century, and was marked by several trends. First, the industry paradoxically both diversified and specialized. It began churning out much larger volumes of a wider variety of products, including book paper, printing paper, wallpaper and wrapping paper. At the same time, the demand for newsprint was growing exponentially, and it spurred a number of entrepreneurs to focus exclusively on manufacturing this type of paper. John Riordon was on the vanguard of this movement, and his devotion to it earned him the title, 'the father of the Canadian newsprint industry.' He built his flagship mill in Merritton, Ontario, along the Welland Canal, roughly five years before Confederation. Source: Kuhlberg, Mark. "Pulp and Paper Industry". The Canadian Encyclopedia, 30 November 2017, Historica Canada. https://www.thecanadianencyclopedia.ca/en/article/pulp-and-paper-industry . Accessed 27 February 2019.

"Early Beginnings: The origins of the Canadian paper industry did not start with wood but instead with fabric. The first rag-based paper mill in Canada was established in 1803 in St. Andrews, Quebec to produce paper for local consumption (Roach 1994). The wood based pulp and paper industry did not get going for another 60 years, some 20 years after Nova Scotian Charles Fenerty first made paper from wood pulp (Snider 1990). In 1866 the first groundwood (mechanical) pulp mill was established in Valleyfield, Quebec by Alexander Buntin and the first chemical wood pulp mill was opened at Windsor Mills in Quebec by Angus Logan and Company in the same year (Dominion Bureau of Statistics 1930). The industry expanded outside of Quebec and into Ontario in 1887 where the first sulphite pulp mill was built at Merritton, Ontario by Charles Riordon (Dominion Bureau of Statistics 1930). Soon afterward, the industry expanded outside the provinces of Quebec and Ontario."
Source: The rise and fall of the Canadian pulp and paper sector by Bryan E.C. Bogdanski1 http://pubs.cif-ifc.org/doi/pdf/10.5558/tfc2014-151



Paper Mills of Alexander Buntin, Valleyfield, QC, about 1875. Eugene Haberer
Source: McCord Museum under CC /by-nc-nd/2.5/



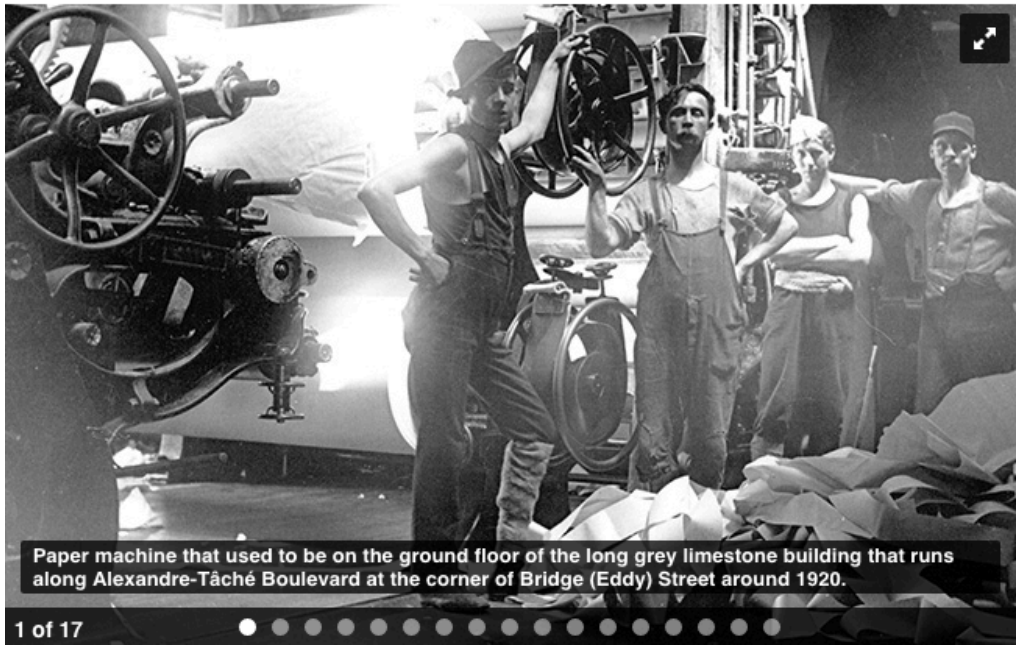
Canada Paper Company, Windsor Mills, QC, 1909
Wm. Notman & Son 1909, 20th century
Source: McCord Museum under CC /by-nc-nd/2.5/

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Pulp and Paper in Ottawa/Hull area

"The Outaouais forest industry was subjected to major changes in the second half of the nineteenth century. The signing of the Reciprocity Treaty with the United States of America in 1854 opened the American market to the lumber producers of Canada and especially of the Ottawa River Valley. This trade slowly replaced the declining British market1. Sawn lumber took over from square timber and became the dominant Canadian wood trade. That trend accelerates the industrialization process by giving birth to the large sawmilling trade of the Ottawa Valley and of the Chaudières Falls in particular. It began the building of sawn lumber industrial establishments at the Chaudières Falls, between Gatineau (Hull) and Ottawa (Bytown), and all along the Ottawa River by American investors who wanted to supply the American demand for sawn lumber. Those investments had a snowball effect. The old sawmills of the Ottawa Valley were revamped and their production increased accordingly. Towns like Quyon, Fort-Coulonge, Pembroke, Braeside, Aylmer, Buckingham, North Nation Mills, Hawkesbury, and a number of others experienced economic prosperity and an important increase in their population."
[...]
"By 1856, the Chaudières Falls were totally changed. P.G. Thompson's sawmill was enlarged to have 27 upright saws and one circular saw, whereas Young, Wynn and Company had 21 uprights."

Source: The whining saws of the Chaudières Falls
www.histoireforestiereoutaouais.ca/en/c9/#6



Click image to view more photos at "**Ezra Butler Eddy et l'industrie des pâtes et papiers**"

"From 1878 onwards, Ezra Butler Eddy has a growing interest in the production of pulp made from ground wood fibre and used in the manufacture of indurated fibre ware. He patented a process to make mechanical pulp and bought the rights to a hydraulic press used to make indurated fibre pails. These two developments were complementary. Eddy built for himself the first mechanical pulp mill, set up on Philemon Island, to supply his indurated fibre ware factory and to manufacture pulp paneling used for thermal insulation in buildings."
Source: Ezra Butler Eddy and the pulp and paper industry www.histoireforestiereoutaouais.ca/en/c19/

Image source: Collection Pierre Louis Lapointe. Photographe : George Wilfred Broadhead. Retrieved via www.histoireforestiereoutaouais.ca/c19/ but probably originating at Photographies | Advitam - Bibliothèque et Archives nationales du Québec (banq.qc.ca) and listed as Droit d'auteur non évalué (assumed in public domain)

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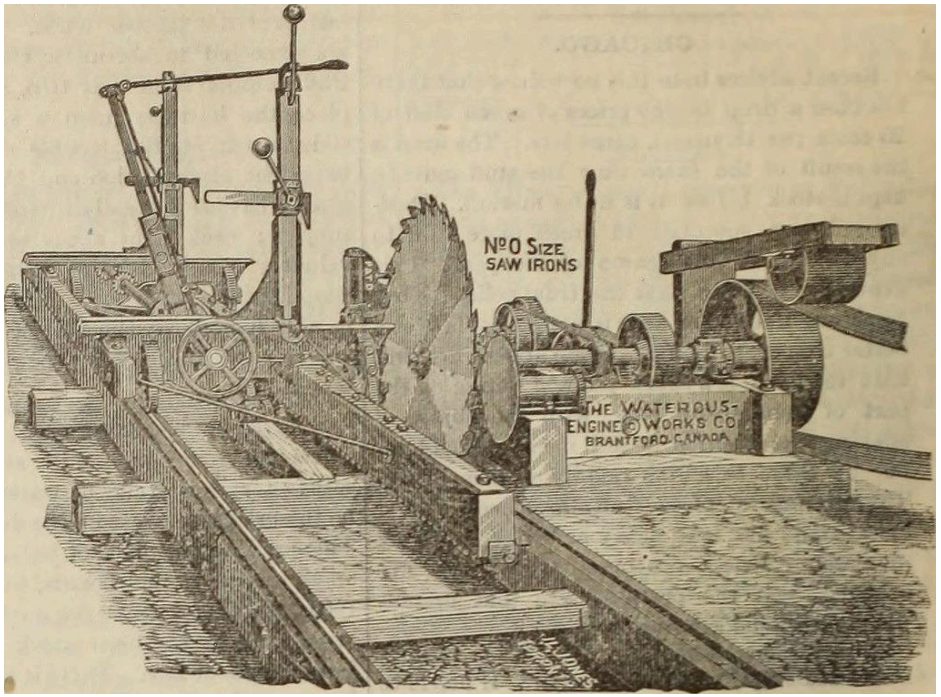
Ottawa/Hull area

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Source: Flickr user "Internet Archive Book Images" https://flic.kr/p/wjHWVV under No known copyright restrictions

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Contexts: Industrialization = railway

"Railways were to the mid-19th century what freeways and airports were to the 20th. That is, they were potentially very efficient means of moving goods and people, they were enormously expensive to construct and typically required government involvement (whether directly or indirectly through loans), and they were the mark of an up-to-date economy and country (or colony). As well, railways didn't suffer from cold weather as waterways did — they offered the potential of year-round service and they could, theoretically, go wherever they were needed, unlike canal systems which depended on water routes."[...]

"What railways did offer (and what is easy to overlook) is a stimulus to heavy industry, to say nothing of demand for squared timber for ties and trestles. Steel for rails, rolling stock, and engines represented a major new demand factor in the economy. Iron and steel foundries appeared and gradually diversified. The availability of surplus iron and steel stimulated growth in other kinds of manufacturing, principally associated with working implements. Shovels, axes, and pickaxes — the trademark **tools of the farmer, the logger, and the miner — were beneficiaries of the railway industry**."

Source: BC Campus 9.9 Manufacturing, Railways, and Industry: Early Days at opentextbc.ca/preconfederation/chapter/9-9-manufacturing-railways-and-industry-early-days/



...



Source: Canadian Lumberman page 284 via Internet Archives at https://archive.org/stream/canadianforest1884donm/

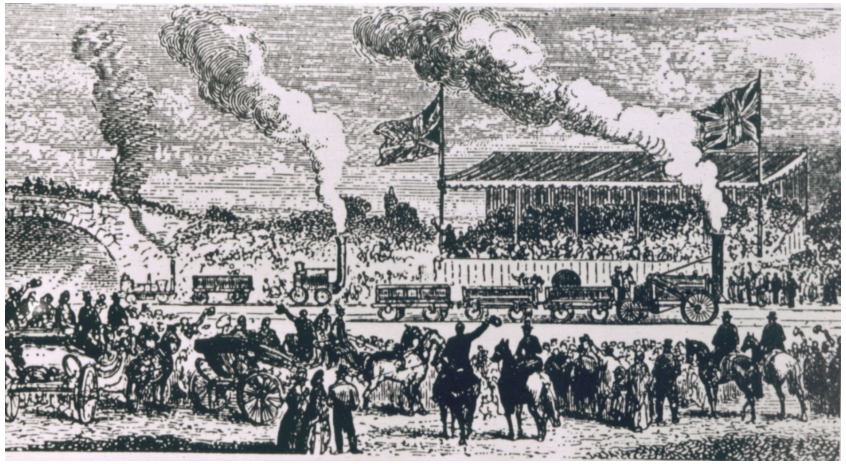
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Context: These were Railway Mania times!

More ambitious was the St Lawrence and Atlantic Railroad, promoted initially by John A. Poor of Portland, Maine, and Canadian entrepreneur Alexander Tilloch Galt. The dual purpose of the line was to provide Montréal with a year-round ocean outlet and Portland with access to a hinterland. Promotion of the railway set a pattern often repeated later. In the initial enthusiasm, Montréalers subscribed £100,000 but paid only 10 per cent of that amount. Galt raised another £53,000 in England and mortgaged his land company to get the project moving." [...] "The financial difficulties experienced by all early railways forced massive public expenditures in the form of cash grants, guaranteed interest, land grants, rebates, and rights-of-way. In return, the railways contributed to general economic developments, and the indirect benefits for business and employment were significant. Unlike canals, railways extended into new territories and pushed the agricultural and timber frontiers westward and northward. [..]
The railways played an integral role in the process of industrialization, tying together and opening up new markets while, at the same time creating a demand for fuel, iron and steel, locomotives, and rolling stock. The pioneer wood-burning locomotives required great amounts of fuel, and "wooding-up" stations were required at regular intervals along the line.

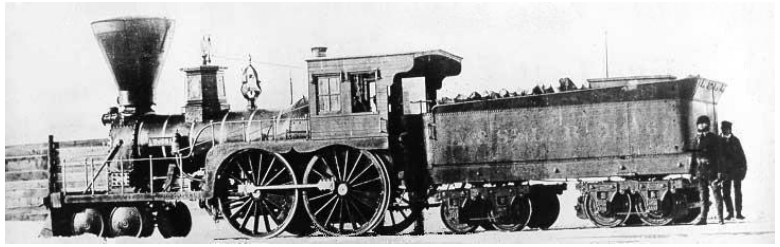
Entrepreneurs invested in the manufacture of almost everything that went into the operation of the railway, and consequently railways had a positive effect on levels of employment. Some small towns became railway service and maintenance centres, with the bulk of the population dependent on the railway shops; for example, the Cobourg Car Works employed 300 workers in 1881. The railway also had a decisive impact on the physical characteristics of Canadian cities: hotels and industries were built around tracks, yards, and stations, making the railway a central feature of the urban landscape."

Source: Marsh, James H.. "Railway History". The Canadian Encyclopedia, 26 November 2018, Historica Canada. https://www.thecanadianencyclopedia.ca/en/article/railway-history . Accessed 27 February 2019.



Later conjectural drawing of the Rainhill Trials. In the foreground is Rocket and in the background are Sans Pareil (right) and Novelty. https://en.wikipedia.org/wiki/Rainhill_Trials

See also: "Rocket triumphantly ahead of Sans Pareil and Novelty at the Rainhill Trials" in Canadian Railway Magazine via https://www.exporail.org



Images source: St. Lawrence and Atlantic Railroad
https://en.wikipedia.org/wiki/St._Lawrence_and_Atlantic_Railroad

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Industrialization = railway (big difference?)

"Although railways reduced the industry's dependence on rivers to transport timber to the mills, their initial importance was in carrying lumber from mill to market, and by the end of the century, specialized logging railways still only had a slight impact on eastern Canadian operations." [...] During the period of reciprocity with the US and the construction of railways and canals, the importance of the American market grew: 400 million board feet of British North American lumber passed through Oswego, NY, between 1864 and 1866, and wood exports to the US from the Province of Canada were worth almost $7 million in 1866-67. While these numbers are impressive, up until the 1880s combined lumber and timber sales to Britain were still more valuable than those to the US. It was not until 1905, with imports of some $18 million, that the US accounted for more than half of Canadian forest-product exports.

Source: Wynn, Graeme. "Timber Trade History". The Canadian Encyclopedia, 06 April 2017, Historica Canada.
https://www.thecanadianencyclopedia.ca/en/article/timber-trade-history

Industrialization = railway (new sources … more competition?)

"In 1810 only the fringes of New Brunswick's pine forests had been cut, and the Ottawa-Gatineau area marked the inland limit of lumbering in British North America. But by 1835, barely a tributary of the Miramichi, Saint John and Ottawa rivers remained unexploited. By 1850 much of the pine had been harvested from the more accessible reaches of these river systems, and trade from many small ports and coastal inlets had ceased. Railways broke the industry's dependence on water courses for the movement of wood to markets and opened the back-country of lakes Ontario and Erie to the trade. Exports from the Peterborough area increased fivefold when the railway arrived in 1854, and between 1851 and 1861, Simcoe County rose from insignificance to pre-eminence among lumber producers in Canada West. Mills proliferated along railways pushing northward into the Canadian Shield."

Source: Wynn, Graeme. "Timber Trade History". The Canadian Encyclopedia, 06 April 2017, Historica Canada.
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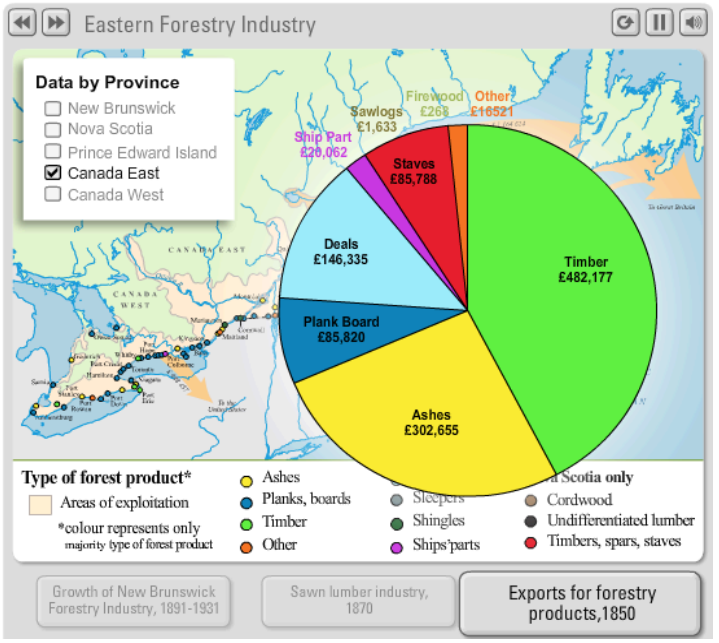


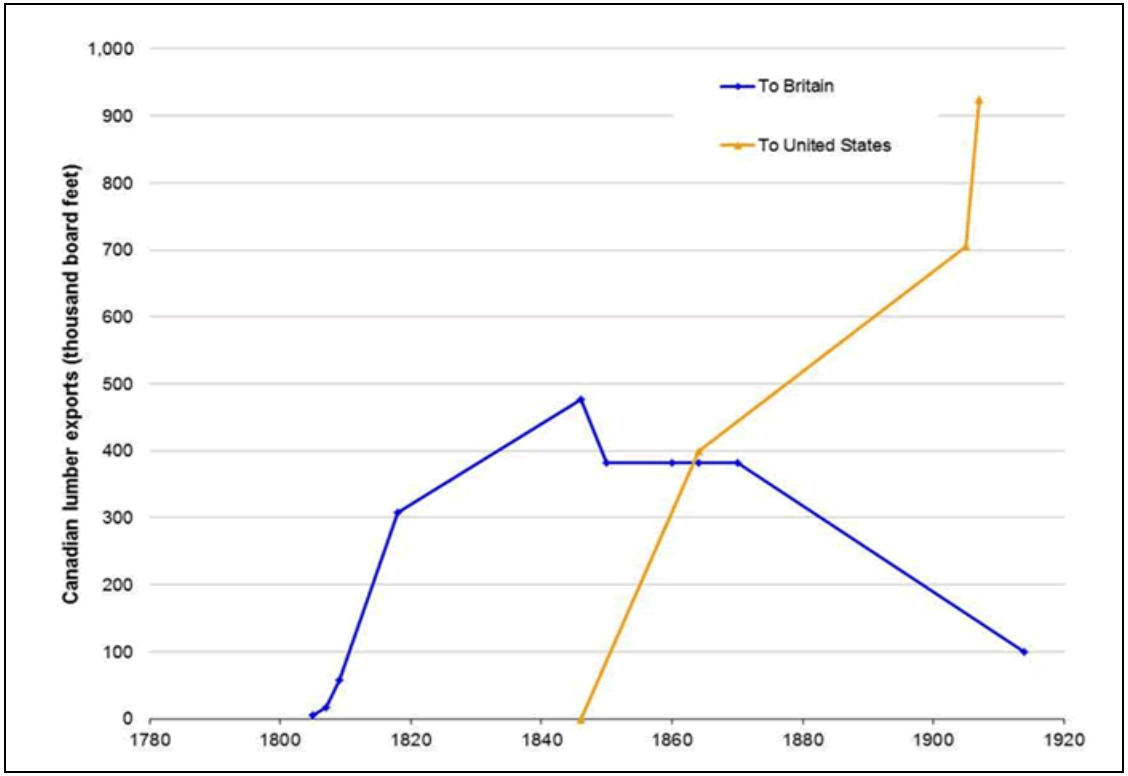
Image source: Note that the above animation for Timber Trade to 1850 was previously available at www.canadiangeographic.com/ but is now defunct on most browsers due to its use of old Flash technologies. For the moment we are temporarily mirroring it here as a screen captured film until the original site adjusts.

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Lumber exports increasing dramatically

“Beginning in the early 1800’s, lumber exports to first Britain, and then the US, increased dramatically. There was also an increasing domestic trade between the Canadas. The US trade grew even more during the period of Reciprocity (1846–1897, Treaty in 1854), aided by new railways and canals. By the 1850s the timber trade with Britain was in decline. Lumber is a striking illustration of the rapidity with which the market destination shifted away from Britain in favour of the US: after beginning in the late 1840’s, the US trade had passed Britain as the primary destination of lumber shipments by 1860 (see graph below).”

Text source and larger version of graph available at Canadian forest sector history (Article 2): The steam age (1830–1880) https://cfs.nrcan.gc.ca/selective-cuttings/69



“Text source and larger version of graph available at Canadian forest sector history (Article 2): The steam age (1830–1880) https://cfs.nrcan.gc.ca/selective-cuttings/69”

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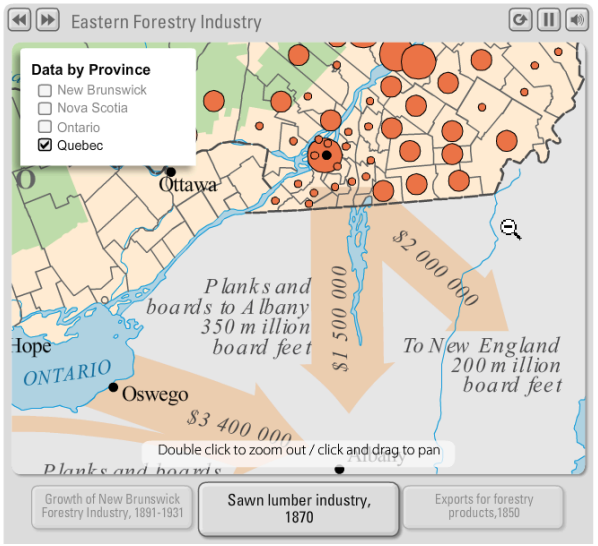
Forestry Industry area had railway access to US markets for exports?
Which areas benefited?

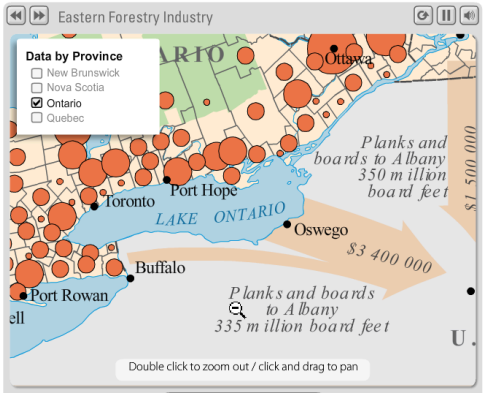
"The first major railroad scheme was to provide Montreal with an ice free port on the Atlantic seaboard. Portland, Maine was selected and by 1853 the St. Lawrence and Atlantic Railway was in operation between these two cities. A more ambitious project was the construction of the Grand Trunk Railway across the province of Canada from Montreal to Sarnia. The work commenced in 1854 and was largely completed by 1856.

Another ambitious scheme was the Great Western Railway. It provided links between Niagara and Detroit for the transportation of produce from the Western American frontier to the eastern seaboard across Canadian soil, and later between Niagara, Hamilton, Toronto and Windsor. Branch lines such as the Simcoe & Lake Huron R.R., the Brockville & Ottawa R.R. and the Prescott & Bytown R.R. were constructed shortly after to facilitate the removal of lumber from the inland saw mills to United States markets.

So in a period of about 10 years the province of Canada had acquired an extensive railway system. Its presence encouraged growth in those towns and cities served by it and greatly enhanced the importance of Hamilton, Toronto and Montreal as industrial and commercial centres."
Source: 1860S LIFE uppercanadavillage.com/1860s-life/transportation/

"At mid-century the mills were concentrated on the lower reaches of the St Croix and Saint John rivers in New Brunswick, the Saint-Maurice and tributaries to the lower St Lawrence in Quebec, and in counties along the northern shore of Lake Erie in Ontario. By 1870 the main focus in Ontario and Quebec was the Chaudière Falls at Ottawa-Hull. Much of the production from New Brunswick mills moved to market from seaports, whereas most of Ontario's and Quebec's output went by canal barge to the major wholesale market at Albany, New York. Railway transport was used along certain links, becoming more widespread towards the end of the century."
Source: Eastern Forestry, 1850-1931 canadiangeographic.com/atlas/themes...forestry_evolution_eastern





Screenshots from text and animation available at Timber Trade to 1850 previously available at www.canadiangeographic.com/ but is now defunct on most browsers due to its use of old Flash technologies. For the moment we are temporarily mirroring it here as a screen captured film

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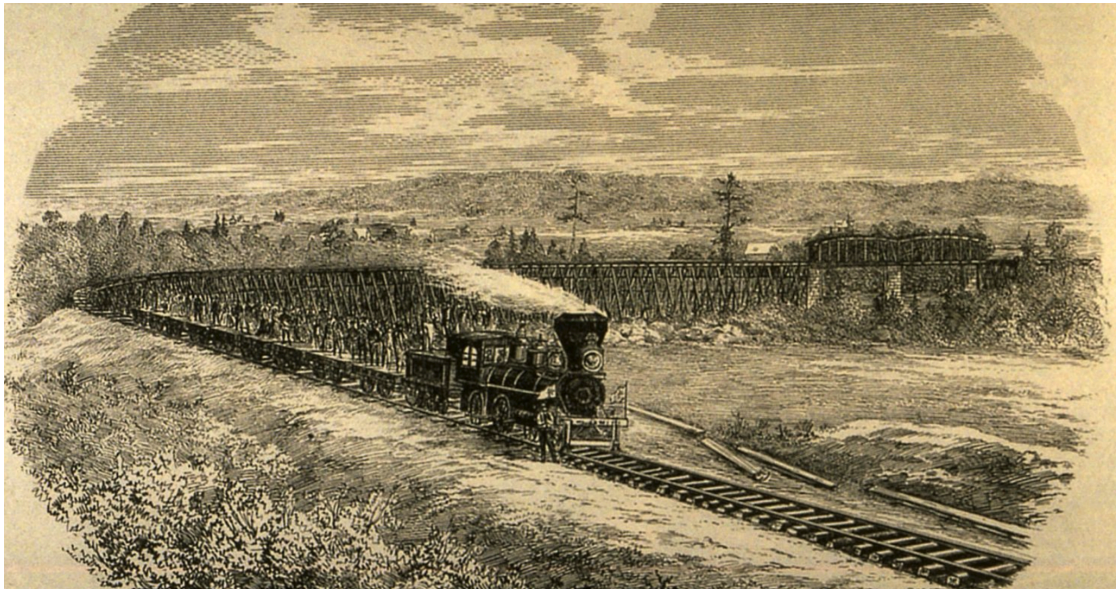
Railways regional development:
Saguenay and Lac St. Jean region

“Beginning with the Quebec City region In the early 1870s, a first 40-kilometer stretch, ephemeral in construction, was built from Quebec City to Portneuf County. This first attempt didn’t have as a goal to help colonization. It is used primarily for local transportation, for firewood for the residents of Quebec. In addition, the track is made of wood slats ... These first fourty kilometers will not withstand the weather of our climate for a long time. Inaugurated in 1870, its change of name from Quebec and Gosford Railway to Quebec and Lake St. John Railway, at the end of the same year, conceals intentions of what was to come.

[...]

“Several years of reflection following the cessation of operations of this first attempt, two promoters, James Guthrie Scott and Horace Jansen Beemer, decided to relaunch the idea with, this time, an ambitious project: that is, to reach Lac-Saint-Jean. Men went to work at the Rivière-à-Pierre north of Quebec. It was at this point that a spur of the network broke off towards the west of the province.”

Quick translation from source:
Histoire de train... La Quebec and Lake St-John Railway

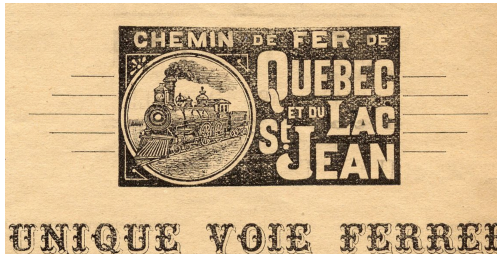


"A 72-foot high bridge in 1871 on the Jacques-Cartier River on the railway line named" chemin de Lisses de Gosford "in the Sainte-Catherine-de-la-Jacques-Cartier sector. This bridge, which was said to be very solid, was made of wood and its three pillars rested on open rock. Gosford Road was intended to connect Quebec City with the Township of Gosford, specifically the Lake St. Joseph area. They transported large quantities of firewood and hemlock bark to supply the city with energy and the tannin leather industry. "

Quick translation from source: De tout temps et en tous lieux, deux principaux types de ponts de grandes dimensions furent construits, soit le pont à poutres

Image source: Pont sur la rivière Jacques Cartier, chemin à Lisses Gosford. BANQ under public domain

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Advertising Poster of the Quebec and Lake St-John Railway.
Source: Histoire de train... La Quebec and Lake St-John Railway
Image source: Chemin de fer de Québec et du Lac St. Jean, 1889, Public domain, https://collections.banq.qc.ca/ark:/52327/1958061



Men at work at Rivière-à-Pierre north of Quebec City. It is at this location that a branch of the network left towards the west of the province.

Image source and larger image via BANQ as Droit d'auteur non évalué
https://numerique.banq.qc.ca:443/patrimoine/details/52327/3112972



Le tracé du réseau de la Quebec and Lake St-John Railway.

Available via: Wikipédia via Histoire de train... La Quebec and Lake St-John Railway
Image under Public domain via Banq at https://collections.banq.qc.ca/ark:/52327/1958278

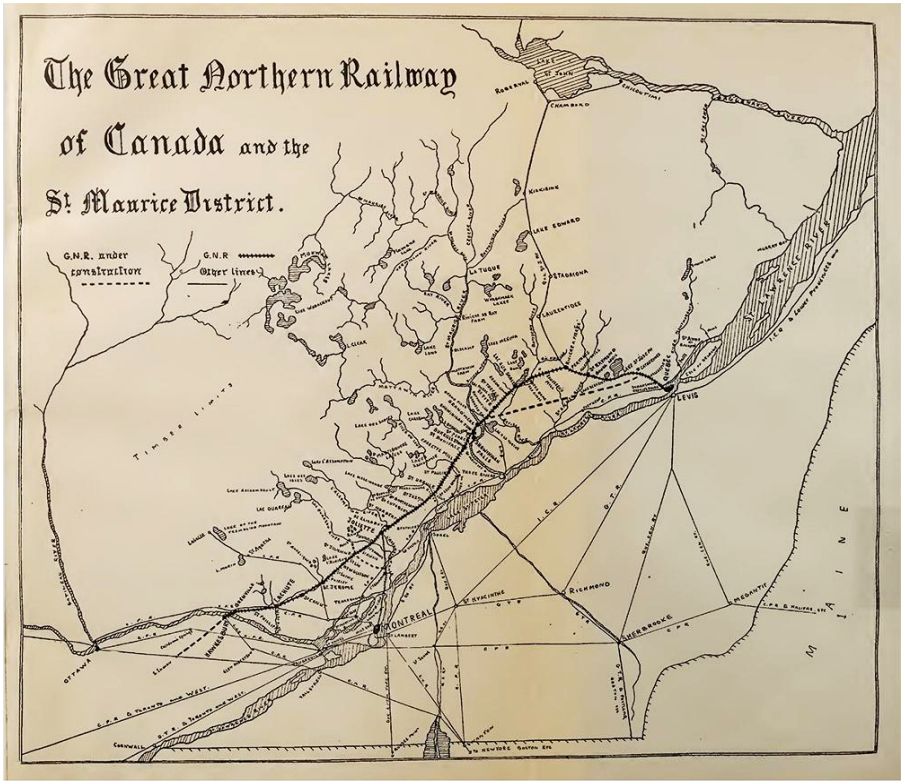
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Mauricie Railway!

"The Normand family tree is closely intertwined with the development of the city. When Antoine's great-great-grandfather Édouard Normand arrived from Québec in 1833 with his wife and infant son, Trois-Rivières was a commercial and industrial town of about 3,100, with a growing role as the administrative centre for the region. Édouard built the first bridge over Rivière Saint-Maurice, linking Trois-Rivières and Cap-de-la-Madeleine. His son Télesphore-Eusèbe became a notary, a politician (also serving two terms as mayor of Trois-Rivières and later elected to Quebec's Legislative Assembly), a newspaper publisher and an entrepreneur who helped build the Port of Trois-Rivières and the first railway, in 1879, to support the burgeoning lumber industry. With his wide network of business contacts, Télesphore-Eusèbe was instrumental in helping his son Louis-Philippe rebuild the city after the fire of 1908." Source: Trois-Rivières: A tale of tenacity

"As soon as the Chemin des Piles was opened in 1856, the first logging camps in the area appeared. The construction of railroads towards the end of the 19th century also facilitated the movement of workers, most of whom came from outside the region. In 1909, the Canadian Northern Railway opened the section from Garneau Jonction (Saint-Georges-de-Champlain) to Donnacona via St-Stanislas. From that moment on, Garneau Jonction became the main crossing point for the various tracks purchased in Quebec by the Canadian Northern Railway. Indeed, from this station one can go east to Quebec City, northeast to Lac-St-Jean, south to Cap-de-la-Madeleine (Trois-Rivières) and west to Montreal and Ottawa".

Quick translation from source: Historique par Patrimoine Shawinigan at http://patrimoineshawinigan.ca/historique/



Crédit photo: The Great Northern Railway of Canada and the St.Maurice District, carte tirée de Hinshelwood, N.M. *Amidst the Laurentians being a guide to Shawinigan Falls and Points on the Great Northern Railway of Canada* , The Herald Press, Montréal, 1902.

Image and others available at Patrimoineshawinigan.ca/historique/ with version via Wikipedia here with no known copyright restrictions also from Flickr user Internet Archive Book Images at https://www.flickr.com/photos/internetarchivebookimages/14754292986/

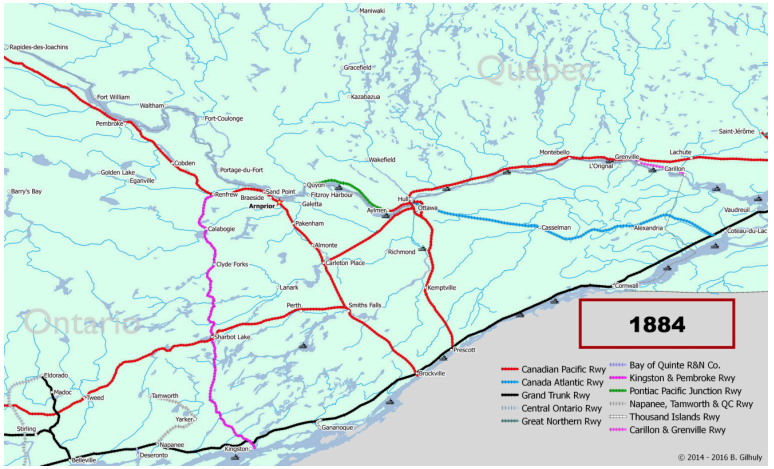
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Railway Ottawa History and agriculturalists
"Besides the advantages We would derive from our connection With railways going to the West, there is another, which would contribute largely to the prosperity of the country to the North of us, and to the improvement and development of our agriculture ; it is the facility of communication With the New England States. Taking it as a whole, the country between Quebec & Ottawa, on the North Shore of the St. Lawrence, is one of the most rich and productive in the whole province ; the want of rapid, easy and cheap communication, up to now, was the only reason of its inferiority in productivene—. The agriculturalist and manufacturer found that the expense of forwarding their goods to market was so great that they ceased to produce more than what necessary for their own consumption."

Source: Report concerning the Quebec, Montreal, Ottawa & Occidental Railway, 1881 [microform], page 84 via https://archive.org/details/cihm_93977/page/n35

Ottawa Area (Prescott) ""This company, incorporated in 1850, built a railway from Prescott to Bytown (Ottawa) for the shipment of lumber and farm products to the markets of the northeastern United States and Montreal. Substantial funds were raised at Bytown, Prescott and other municipalities along the line. In 1851, Walter Shanly, Chief Engineer, started construction, and a train first ran from Prescott to Bytown on Christmas Day, 1854."
Source: https://en.wikipedia.org/wiki/Bytown_and_Prescott_Railway

Ottawa Area (Smith Falls) and agricultural machinery
"What was mainly an agricultural and mill town began to industrialize with the railway's arrival. Local companies such as Frost & Wood and the Cossit Bros. – manufacturers of agricultural implements – quickly replaced grist mills and sawmills. A shift from the canal to the railway and from milling to manufacturing took place. In 1871, an Industrial Census of Canada reported only two of the top ten industries in Smiths Falls were mills. Two companies, Frost & Wood (1839) and Cossitt Bros. (1853) paid 69% of the wages in Smiths Falls. The sheer size and demand of their product required modern transportation. Because of the railway, both companies were able to reach national markets. Frost & Wood even had a spur line direct to the factory."
Source: Smiths Falls embraces a new age of industry http://rmeo.org/history/



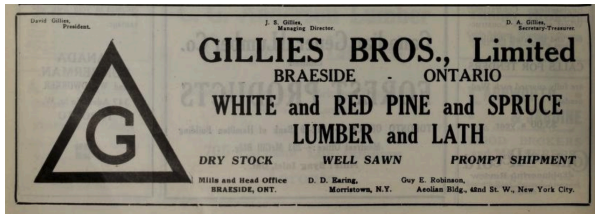
One of many views of Railway development in Ottawa area
available at Tracing the Lines by Brian Gilhuly
adarchives.org/media/tracing-the-lines/tracing-the-lines.pdf

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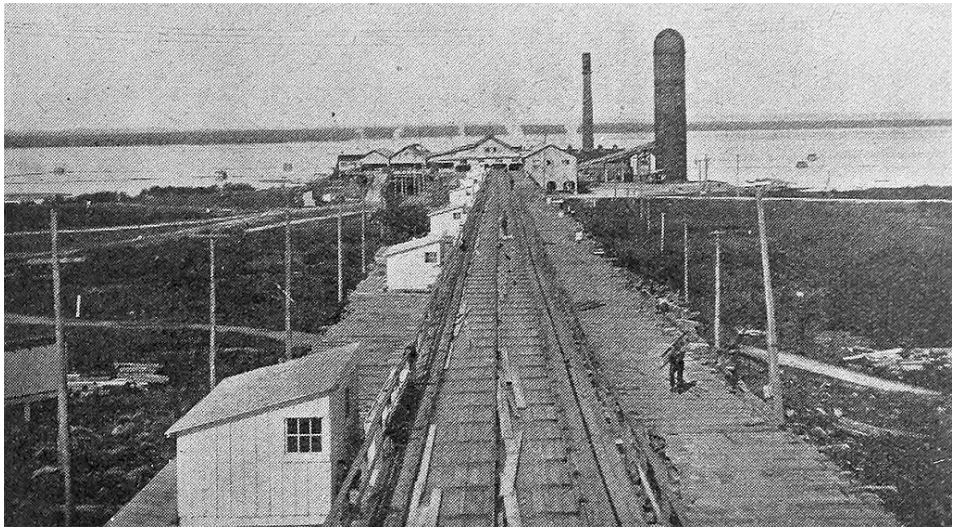
Railway Ottawa History

“Arnprior, an ambitious town of 3,000 inhabitants, was rached a few minutes after ten o'clock. This bustling little hive is overjoyed at the building of the Parry Sound railway, for they expect, and not without good and sufficient reasons, that the new road will give a boom to everything. The Journal had a talk with many of the leading citizens and one and all expressed the great satisfaction they all felt at the enterprise of Mr. Booth in giving them an outlet, both convenient and - as compared to rates they have been compelled to pay - cheap. The chief industry of the town is the great sawmills of the McLaughlin Brothers who employ about 700 men and have an annual output of 83,000,000 feet of lumber. Arnprior is built on the banks of the Madawaska, has pretty wide streets, substantial buildings and some city-like business houses. Some two miles from the town are several mineral springs. Next week work on the new railway bridge spanning the Madawaska will be commenced. It will be an iron superstructure resting on stonework.”

Source: 3 March 1893 Ottawa, Arnprior and Parry Sound Railway: First Run Between Ottawa and Arnprior via https://churcher.crcml.org/



Advertisement source: Canadian forest industries July-December 1921 https://archive.org/



Lumber conveyor in Arnprior, Ontario (1921) https://commons.wikimedia.org/

The Gillies Bros. Co. Ltd. lumber mill was established on the Ottawa River at Braeside in 1873.

Text and oter images available : Arnprior McNab Braeside Archives via River defines Ottawa Valley for more than 150 years and others via https://search.adarchives.org/en/list?q=gillies+mill&p=1&ps=20

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Railways were changing in Eastern Townships areas too:

"In the years after 1825, an epidemic of 'Railway Fever' swept over Western Europe and North America. It started in England, spread to the United States and then moved northward to Canada. By the 1840s it was endemic in the Eastern Townships. The railway was hailed as the new and universal cure for economic depression, isolation and as the means to achieve a wide variety of economic and social objectives. Among the people most susceptible to this epidemic were politicians, businessmen, landowners, speculators and mayors. Farmers were often less sympathetic to its effects. Locally, Moses Colby and Ralph Merry, among many others, were affected. For the next fifty years, loud voices were raised within the Eastern Townships in favour of building railways and, by 1920, scarcely a hamlet in the region was without its railway station. In the Eastern Townships, as elsewhere in Canada, railways and politics became inextricably intertwined. [...]
With an increasing amount of trade in forest and agricultural products moving out of Canada to the United States and to Great Britain, the port of Montreal, lying at the junction of the Ottawa and St. Lawrence Rivers and their respective western hinterlands in Ontario, emerged as the transport hub of eastern Canada. One of the major limitations of the rivers and of the canal systems, however, was their seasonality. For the winter months, they were inoperative and the volume of goods now moving for export demanded a year-round means of transport. A railway was the obvious solution and in the 1840s a strong movement grew in Montreal mercantile circles to promote the construction of a railway to an ice-free port on the American east coast in order to be able to maintain year-round export (and import) of goods and raw materials. New York, Boston and Portland, Maine were the three primary contenders and, through a variety of more or less colourful exercises involving sleighs racing through the winter forests with sacks of mail, Portland was eventually chosen as the terminus for Montreal's railway."
[...] From the 1890s to the end of the first World War, a wave of industrialization swept over the Eastern Townships bringing with it substantial urban growth in cities such as Sherbrooke, Granby, Magog, Coaticook, Drummondville and even to smaller centres such as Beebe and Rock Island



Locomotive of the Central Vermont Railroad on the Waterloo & Magog Railway at Magog, circa 1880. (Source : Derek Booth collection).


Northbound Quebec Central Railway freight train at North Hatley, May 10, 1955. (Source : D.S. Robinson photo, Derek Booth collection)

Images source: The impact of railways on Stanstead: 1850 to 1950 by J. Derek Booth (Photo used on LEARN resources with permission of the author. Feb. 23, 2021)

Text source: [The impact of railways on Stanstead: 1850 to 1950](#) by J. Derek Booth	

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To explain how industrialization changed the farming industry.	I can explain how industrialization changed the farming industry.	❑

Railways changing Eastern Townships areas too:

"The railway had an enormous impact on the economy and on life in general in the Eastern Townships. One English settler described it best in a letter to his grandfather back in England:

> *We feel the effects of the railroad to Sherbrooke already. The storekeepers have lowered their prices, for if they did not there are plenty of people in Montreal prepared to sell against them. The freighting on heavy articles such as flour, salt, etc., is a mere trifle now to what it was when everything was drawn by carts. Lumber is in great demand, so that the farmers will have more chance now, and I think Sherbrooke will become quite a place of business. There is much more money stirring in town than there used to be, double as much, I reckon.*

Railways opened up new markets not only to farmers but to wood and mineral producers as well. Manufacturers also expanded production. Mills which once catered to small local markets were now able to reach all of Canada. The Paton Textile Mill, for example, founded in Sherbrooke in 1867, would become the largest in the country.

The Eastern Townships' economy continued to grow during the second half of the 19th century, while much of the Quebec and Canadian economies remained depressed. More jobs were now available for the sons and daughters of rural families and for new immigrants. As with the Industrial Revolution elsewhere, however, there were casualties. Hours were long, wages low, and working conditions poor. Small-scale producers and businesses were often put out of business by cheaper goods brought in from outside by the railways or by those produced locally in the new, more efficient factories."

Source: Industrial Revolution (1854-1918) Township Heritage Web Magazine, by the Townshippers' Association



"When they were settled, the Eastern Townships were cleared for farmland. But by the second half of the nineteenth century, the region had also become a bustling centre for industry. Rivers provided the power for mills, and trains transported goods. Rock Island and surrounding towns prospered, as local factories like W. M. Pike and Son overall manufacturers and the Lay Whip Company exported their products on both sides of the border."

Source: People, Landscapes and Buildings of The Eastern Townships by Robert Lemire, page 8.

Image source: Bird's eye view of Derby-Line, Vt. & Rock Island, by Wellge, H. (Henry), 1881 Under Public Domain https://collections.banq.qc.ca/ark:/52327/2247001

Learning Intentions	Success Criteria	
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Remember: farming originally met just the needs of families
Farming developed primarily in response to the needs of farm families. A farm was an unspecialized, mixed operation that provided as much as possible for domestic consumption, and some surplus for sale. Its basic components were a kitchen garden, in which a wide variety of vegetables, tobacco, and perhaps a few fruit trees were grown; ploughed fields, which were planted primarily in wheat but also in legumes (a field crop in Canada), barley, and oats (usually in a two-course rotation, that is, crops one year followed by fallow the next); some meadow and pasture; and, depending on the age of the farm, more or less forest. Pigs, sturdy animals that could fend for themselves most of the year, were kept for meat. Cattle were kept for meat and milk, and oxen as draft animals. Sheep were raised for their wool. By the 18th century there were horses on most farms, used for hauling. Every farm had poultry.

At the end of the French regime (Treaty of Paris, 1763) about 60,000 people, some 85% of the Canadian population, lived in the countryside of the lower St Lawrence. Almost all of these people were farmers on their own long-lot farms.
Source: Canadian Atlas - Farming

Eastern Townships too: Example of how farming originally just met the needs of families
“In order to survive in the early Eastern Townships, families had to run self-sufficient homes, which required rich soil and diverse crops. Unfortunately, one of the major problems in the region, which led to its small early population, is that the majority of the soil is not as rich as that in the seigniorial lands of Quebec and families had to adjust to this problem in order to survive. By clearing as much land as they could, settlers were able to find a quality of soil that allowed them to produce enough crops and raise enough livestock to start up local markets in small communities, selling such items as vegetables and seed.”

Source: Historical Geography of Eastern Townships originally at https://www2.ubishops.ca/ now via https://web.archive.org/... agricul.htm

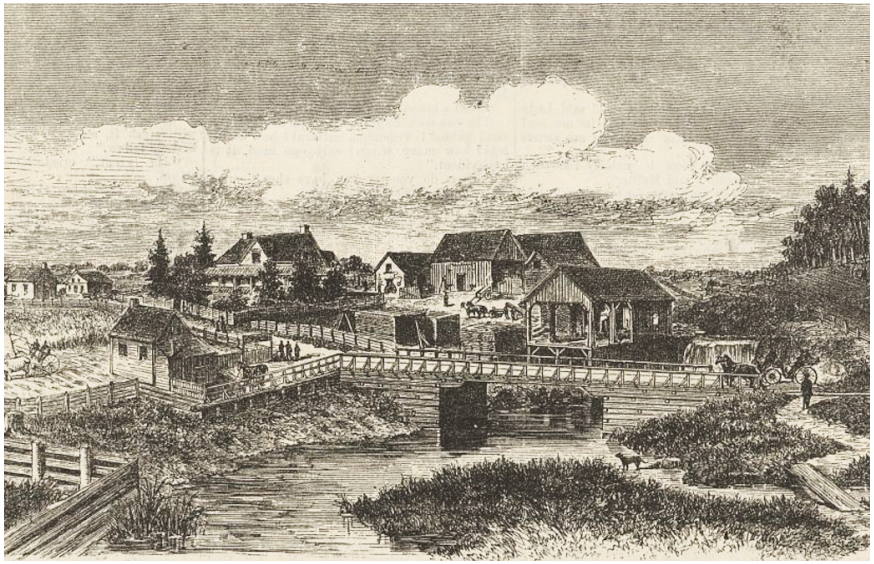


Image source: A farm in the Eastern Townships of Quebec : Interior view of the new steamship Pilgrim.
Publisher:Montréal : Canadian Illustrated News, 1883 [283], under Public Domain via https://collections.banq.qc.ca/ark:/52327/1996712

Also available via : People, Landscapes and Buildings of The Eastern Townships by Robert Lemire, page 6 via https://dalspace.library.dal.ca

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Remember: "Over Farming" occurred in the older systems: Land became used up and less fertile

Land being used up

"As the oldest settlement colony in British North America, Lower Canada had certain advantages. The infrastructure of banks, warehouses, shipping capacity, merchant houses, schools and hospitals, and the military were all much more evolved than in any of the other colonies. Against that, much of the best arable land was spoken for by 1818, some farmland was in need of rest and fertilizing, and the demographic model of large, often extended farm families meant that greater resources had to be dedicated to subsistence than was the case with smaller families in the English Protestant colonies."

Source: Chapter 9. Economic Transformation and Continuity, 1818-1860s 9.4 The Lower Canadian Economy.../opentextbc.ca/

See other references to this phenomenon at LEARN's student site at Secondary History - French Canadian Migration

And in Doc collection - 1840-1896 (#2b) Demographics, Migrations, French Canadian Migration



"An Ontario bush farm in 1838. The tree stumps have not yet rotted enough to be removed. "

Image source: Library and Archives Canada.
Image originally retrieved from Soldier's Story: James Ormsby, from Waterloo to Wilderness

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Remember too the problems with the Seigneurial System:
i.e. The Censitaire only rented his land.

Scarcity of land, real or artificial?

"From the early 18th century, the French Canadian population had grown without significant help from immigration. .... Post-Conquest British immigration hardly affected this demographic trend except for a limited time during the Loyalist wave, whereas land was so abundant and people so scarce that French Canada's vigorous increase continued until the end of the century. It was in the seigneur's interests to grant lands upon request in order to have the largest possible number of rent payers, but early in the 19th century this policy, combined with the high birth rate, led to decreasing accessibility of good lands; as well the seigneurs, prompted by the rising value of their forest products, began to limit the peasants' access to real estate. As the scarcity of land, real or artificial, became more widespread, a rural proletariat began to develop, which by 1830 made up about one-third of the rural population. French Canadian immigrants to the US (see Franco-Americans) came largely from this group and from the impoverished peasantry. After 1815, population pressure was intensified in the rural communities along the St Lawrence and Richelieu rivers by a massive wave of British immigrants looking for land and jobs. Peasants and the proletariat in rural Québec felt threatened by the strangers, who sought land in the Townships, where French Canadians had long thought their own excess population could settle."

Source: Please visit www.thecanadianencyclopedia.ca/en/article/lower-canada/

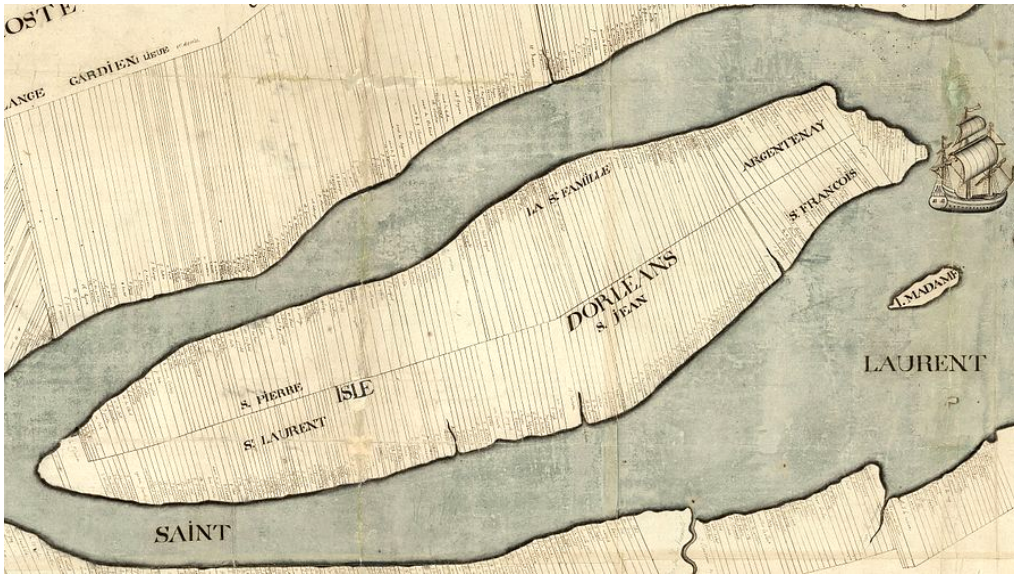


Image source: Détail montrant l'île d'Orléans. Carte du gouvernement de Québec levée en l'année 1709 par les ordres de Monseigneur le Comte de Ponchartrain [...] et dressée par Jean Bte Decoüagne originally at https://gallica.bnf.fr/ark:/12148/btv1b5968946w and retrieved from https://commons.wikimedia.org/g under Public Domain.

See other references in document collection:
1840-1896 (#2) Migrations in Lower Canada
docs.google.com/document/d/1y_HhMX9XYNOXVSGqis6nBpYZcmk0HjCAnyRguER2fqc/

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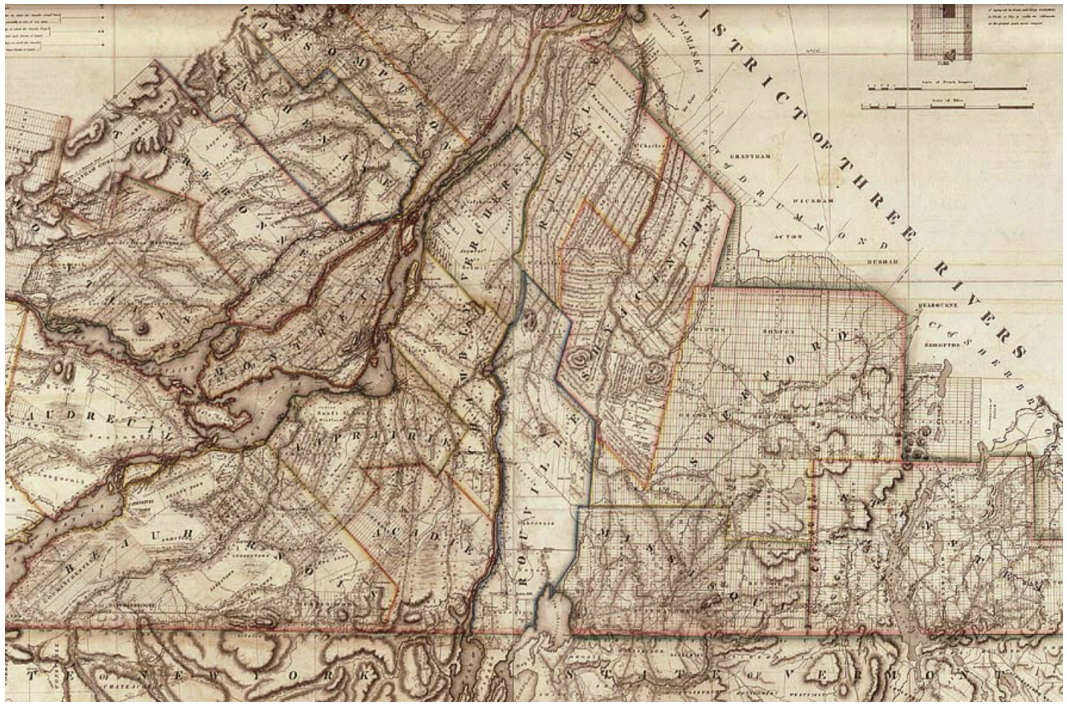
Things began to change:
In the 1840s to 1850s large seigneurs gave renters right to be freeholders, they could buy and sell land

"Development of the Town System After Canada was ceded to Britain in 1763 (see Treaty of Paris), new British laws respected the private agreements and the property rights of francophone society, and the seigneurial system was maintained. But as new land was opened for colonization, the township system developed. As time went on, the seigneurial system increasingly appeared to favour the privileged and to hinder economic development. After much political agitation, it was abolished in 1854 by a law that permitted tenants to claim rights to their land. The last vestiges of this institution, which many historians believe profoundly influenced traditional Québec society, did not disappear until a century later. [...]

St. Martin's Day (11 November), censitaires would present themselves at the seigneurial manor to pay their rentes. While the Seigniorial Act of 1854 abolished the system of rights and obligations, neither seigneurial property nor the relationship between seigneur and censitaire was abolished. In 1928, an inquiry launched by the Bureau de la statistique du Québec (Statistics Québec) showed that rentes were still being collected in 190 seigneuries (for a total capital value of $3,577,573). The annual payments made by nearly 60,000 families amounted to more than $200,000. In 1935, the Québec government created the Syndicat national du rachat des rentes seigneuriales, or SNRRS (National Commission for the Repurchase of Seigneurial Rentes), in an effort to put an end to the seigneurial system once and for all.

Source and more information by:

Mathieu, Jacques. "Seigneurial System". The Canadian Encyclopedia, 18 October 2016, Historica Canada. thecanadianencyclopedia.ca/en/article/seigneurial-system . Accessed 01 March 2019.



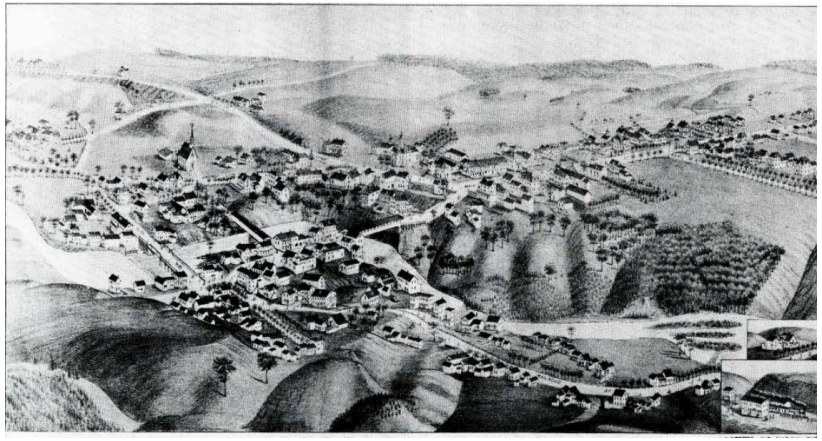
Montreal region by Bouchette, 1831 Bouchette published several detailed maps of Lower Canada (Quebec). This particular map shows the lands in the old French seigneurial system and the new townships.

Source and several larger views at
Montreal region by Bouchette, 1831 at archived Library and Archives Canada site here

Learning Intentions	Success Criteria	
To explain how industrialization changed the timber industry.	I can explain how industrialization changed the timber industry.	❑
To indicate the main areas of the timber industry on a map..	I can indicate the main areas of the timber industry on a map.	❑
To explain how industrialization changed the farming industry.	I can explain how industrialization changed the farming industry.	❑
To explain the impacts of industrialization and urbanization on the dairy industry?	I can explain how industrialization and urbanization impacted on the dairy industry	

Railway. Opened up new markets, but…
Did it help or hinder agricultural economies?
Eastern Townships, farming changed and actually declined:
"The effect that the railways had on agriculture was rather more subtle than in the cases of tourism, mining or manufacturing. It is in this area that the railways 'continentalizing' influence was most strongly felt. For over half a century, a self-contained, largely self-sufficient type of mixed farming, based on relatively small farms, had grown up in the Eastern Townships. The lack of good transportation facilities to markets in Montreal or elsewhere can be seen as isolating the region, but it can also be seen as protecting a particular agricultural system from outside competition. Railways gave Eastern Townships farmers access to markets beyond the region, but they also gave farmers elsewhere in Canada and the United States access to local markets. With vast new agricultural areas coming into production in the second half of the nineteenth century and up to World War I, many of them more productive than the Eastern Townships farms, local farmers found themselves competing in national and international markets rather than merely in regional ones. The overall result of the railways opening up Eastern Townships farming to outside competition was to force the region's farmers to specialize in those types of farming best suited to the region. The pioneer mixed farming economy which produced a wide variety of products, primarily for regional markets, gave way to specialization centred around dairying." [...]

"By the closing decades of the nineteenth century, this trend [of cutting forest for farmland] had been reversed all over the Townships. Farm land was abandoned at a rapid rate as marginal land was allowed to revert to forest. That process has continued to the present day as about one half of all the land originally cleared for farming has returned to forest of one sort or another. At the same time, the number of farms began to decline and individual farms became larger to accommodate the needs of the new commercial dairy farming."
Source: The impact of railways on Stanstead: 1850 to 1950 by J. Derek Booth
https://www.erudit.org/en/journals/hq/2009-v14-n3-hq1060202/11391ac.pdf



View and examine full image via source: People, Landscapes and Buildings of The Eastern Townships by Robert Lemire, page 8 via https://dalspace.library.dal.ca

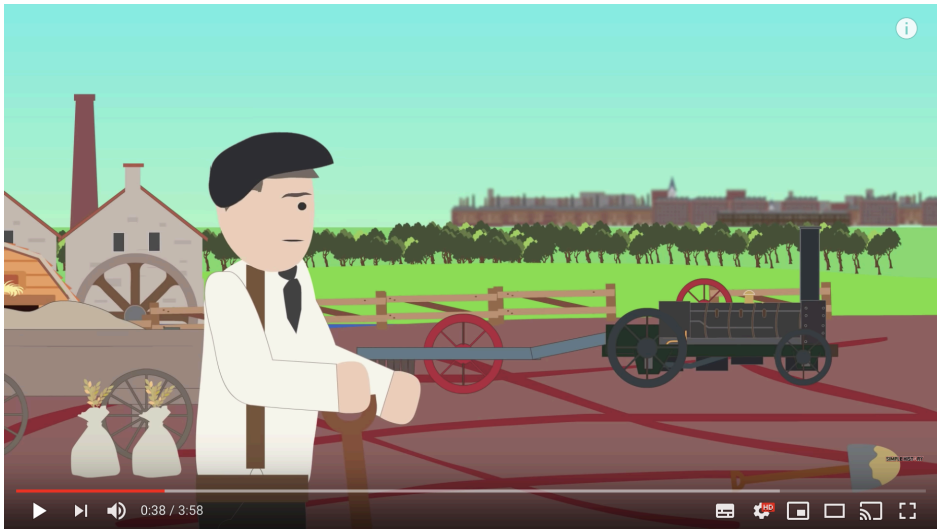
Learning Intentions	Success Criteria	
To explain how industrialization changed the farming industry.	I can explain how industrialization changed the farming industry.	❑

In general: Industrial growth and processes affected agricultural industry

By the 1850s, some manufacturing, including small factories producing farm implements, tools and other metal goods, had developed in Montréal, Toronto and smaller centres. At the same time, advances in some sectors of the economy such as brewing, milling, textiles and shipbuilding reshaped economies and laid the basis for even greater industrialization. The early, petit bourgeois entrepreneurs of the First Industrial Revolution also reflected the growth of an emerging capitalist class, one that largely utilized small- to medium-sized family-run firms. Industrial investment in this period was often funded through British financing of bonds."

The Second Industrial Revolution began in the late 19th and early 20th centuries. It was marked by mass automation and the moving assembly line, large-scale factories and time management of workers. During this period, companies reshaped manufacturing, consumption, work and the urban landscape. [...] This dynamic occurred in a host of sectors in the Canadian economy, from meat packing to **farm implements** to small-scale consumer goods to automobile manufacturing. Much of this industrial economic activity took place in Ontario and Québec, where early industry had been established. Extraction of natural resources, particularly coal, forestry, oil and gas, and metals, fuelled these sectors, and also illustrated the broader impact of manufacturing upon non-urban communities. There was also significant development of the coal and steel industries in Nova Scotia, along with some shipbuilding.

Source Anastakis, Dimitry . "Industrialization in Canada". The Canadian Encyclopedia, 02 August 2017, Historica Canada. https://www.thecanadianencyclopedia.ca/en/article/industrialization . Accessed 01 March 2019.



The Industrial Revolution (18-19th Century)
https://www.youtube.com/watch?v=xLhNP0qp38Q

And also view sections of…
Coal, Steam, and The Industrial Revolution: Crash Course World History #32
https://www.youtube.com/watch?v=zhL5DCizj5c
Turning Points in History - Industrial Revolution
https://www.youtube.com/watch?v=3Efq-aNBkvc

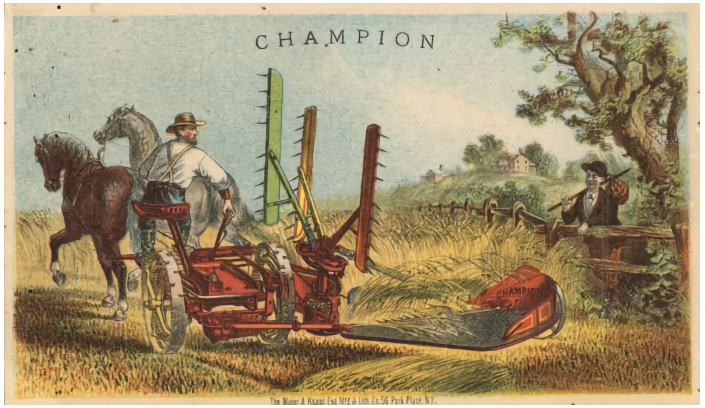
Learning Intentions	Success Criteria	
To explain how industrialization changed the farming industry.	I can explain how industrialization changed the farming industry.	❑

Changes in the methods of production in Canadian farming
-- Didn't always help Quebec farmers though!

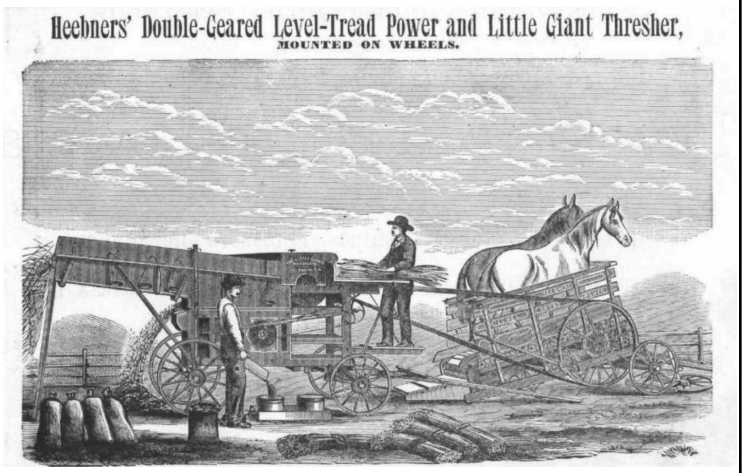
"In addition to these important changes on the demand side, there were also significant changes in the methods of production in Canadian farming. Parallel with the experience in the US, the rate of technical change in farming accelerated sharply. By the middle of the century, horse-powered mechanical reapers and threshers were coming into common use, especially on the larger farms of Canada West. The result was greatly increased output per acre and a marked reduction in the demand for farm labour. Many farmers also began making substantial investments to improve agricultural land itself. Tiling fields to improve drainage and lengthen the cropping season and removing boulders and hedgerows to enlarge fields increased the efficiency of farming operations. The amount of information available to farmers also increased. Agricultural societies and educational programs became important features of farm life in the 1840's and 1850's, enabling farmers to learn about new crops and practices.

Such innovations were most readily taken up by the more prosperous commercial farmers of Canada West. In Canada East, farmers were slower to adapt to the new circumstances of the mid-19th century. During the 1840's the rural population there grew rapidly, due mainly to a rising rate of natural increase, but average farm income appears to have remained more or less stationary. As transportation costs fell, farmers in Quebec faced increasing competition from producers in Ontario and the American midwest, especially in the production of wheat, which lent itself to the more efficient large-scale production methods then being introduced. Few Quebec farmers, especially in the older seigneurial region, could afford to acquire the new machines or the horses to operate them. Some were able to survive by switching to other crops such as hay, buckwheat, and oats, or by giving up grain farming in favour of livestock raising and dairying. Others, who found themselves unable to adapt, left farming and moved to the cities. Large numbers of French-speaking farmers emigrated to find work in the factory towns of Maine, New Hampshire and Vermont. After 1850 the same transportation improvements which made it difficult for Quebec farmers to compete in wheat production facilitated the development of markets for dairy and meat products. The growth of Montreal and other cities created markets for butter, cheese, and meat. Under Reciprocity Quebec dairy products were also able to enter US markets. When reciprocity ended (in 1866) the Canadian government imposed import duties on meat, butter and cheese to protect domestic producers from US imports."

Source: The Wheat Staple and Early Agriculture



The earliest reapers cut stalks of grain, depositing them at the side of the machine."
Text source: J Firman via Agriculture To Everything There is a Season by Gerry Pierce
LAMBTON COUNTY MUSEUMS lambtonmuseums.ca/
Image source: File:Champion Trade Card, 1875.jpg - Wikimedia Commons



Source and many other images at:
1885 Illustrated and Descriptive Catalogue of Agricultural Machinery Manufactured by Heebner & Sons, page 4 at https://archive.org/

Learning Intentions	Success Criteria	
To explain how industrialization changed the farming industry.	I can explain how industrialization changed the farming industry.	❑

Agricultural changes in terms of machine, mechanisms, techniques:
"**Reaper/Binder:** Small grains had been harvested by hand for centuries, cut with sickles or scythes, hand-raked and tied into sheaves. Grain harvesting machines first appeared in Great Britain in about 1800, and in the U.S. a decade or two later, but most failed. Obed Hussey and Cyrus McCormick developed successful reapers during the 1830s. McCormick's machine became the more popular one; today he is credited with inventing the reaper. Those early machines still required the sheaves to be bound by hand, but in 1857 the Marsh brothers equipped a reaper with moving canvases that carried the grain to a platform where it was tied into bundles by a worker riding on the machine." [...]

3. **Thresher:** When grain was being cut by hand, the method for separating the kernels from the straw was equally slow and labor intensive. [...]
The first threshing machine with a revolving, toothed cylinder and concaves was invented in 1786 in Scotland by Andrew Meikle. Brothers Hiram and John Pitts are credited with invention of the first successful American separator in 1830, as well as with adapting a horse tread power to run the thing. Hiram soon added a fanning mill to the threshing drum to separate and clean the grain at the same time. Later improvements resulted in machines that extracted virtually all the grain from the straw and thoroughly cleaned it.

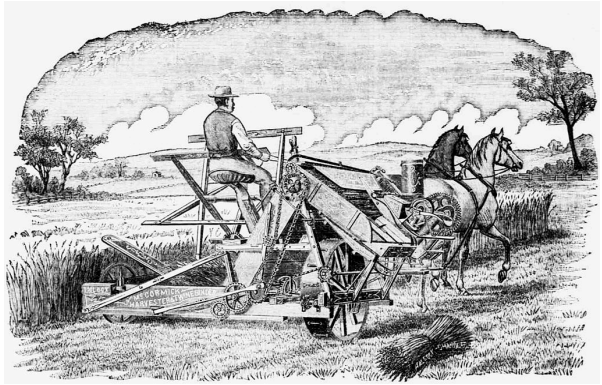
4. **Steam Engine:** Until the end of the 18th century, American farmers relied primarily upon their own strong backs and arms and those of family members, hired men or slaves. New farm machines then being developed required more power, so oxen, horses and mules were pressed into service. Stationary steam engines were used early on to run cotton gins and mills. The additional power required by improved threshing machines led to the development of portable steam power, which made its first appearance in 1849. At first, horses were used to haul portable steam engines from job to job. During the 1870s, several inventors developed practical drive systems and the self-propelled steam traction engine became common as power for the many threshing rigs around the country. Such machines were also used to pull multiple gang plows in the large fields of the wheat belt."

Source: Source: Ten Agricultural Inventions that Changed the Face of Farming in America Let's Talk Rusty Iron: The inventions that stand out in the history of farming and farm machinery. BY SAM MOORE
http://southeastagnet.com/2016/03/24/agri-view-inventions-and-agriculture/



"Tractor pioneer John Deere created the first self-cleaning plow made from an old saw; John Deere began mass-producing his newly popular saws instead of making them on-demand, a customary practice for blacksmiths at the time."

Source and more information at "The HIstory of the Tractor" at www.sodgod.com/tractor-history/ and The Impact of JOHN DEERE'S Plow https://www.lib.niu.edu/2001/iht810102.html



"Advertisement for the twine binder version of the McCormick reaper. caption reads: "the people's favorite! the world-renowned Mccormick twine binder! victorious in over 100 field trials! new and valuable improvements for 1884!" Image courtesy of wikimedia commons"
View large version here at https://kids.kiddle.co/Cyrus_McCormick

Learning Intentions	Success Criteria	
To explain how industrialization changed the farming industry.	I can explain how industrialization changed the farming industry.	❑

Agricultural changes in terms of machine, mechanisms, techniques:

"**Agricultural Implements:** Canadian agriculture changed rapidly between 1850 and 1900, and changes in agricultural implements both caused and reflected changes in other sectors. In addition to the spade, hoe and rake familiar to modern gardeners, early hand tools used in farming included the seeder, a perforated wooden trough carried by means of a strap around the neck and used in broadcast seeding; the sickle and the scythe, one- and 2-handed knives, respectively, used for cutting field crops and hay; the flail, 2 wooden rods attached by a strap and used to thresh out the kernels of grain; the winnowing tray, a 2-handled, half-moon-shaped receptacle used to cast flailed grain into the air so that the chaff could be blown away; the fork, used for pitching hay or shovelling manure; the wooden grain shovel; the hay knife and hay hook; and the grafting froe, a knife used to split branches in grafting. **Most of these implements were superseded; others (eg, the plow) underwent substantial modification**.

Some Implements: From wooden-moldboard, single-handled, home-made machines, plows became chilled-steel, mass-produced, scientifically designed 2-handled walking plows; then single-moldboard riding plows, double-moldboard riding plows, and finally giant machines with up to 16 moldboards. **These alterations occurred as the source of power changed from oxen (best for root-strewn pioneer farms) to teams of horses, then to multiple teams of horses (up to 16 to a hitch), to steam-driven traction engines with the power of 50 or more horses, and finally to lighter, more versatile but equally powerful gasoline tractors.**

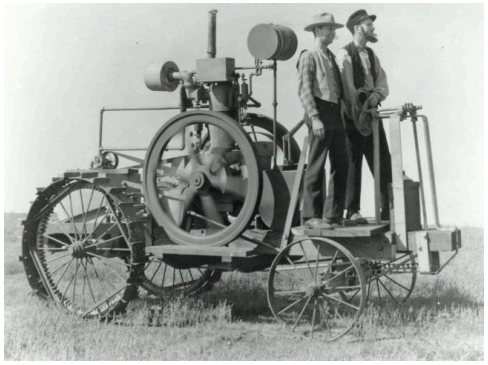
Threshing machinery underwent the most dramatic and expensive changes. In 1850 most farmers cut their grain with cradle scythes, and the few short weeks of the harvest dictated the amount grown. In winter, cut grain was threshed on the barn floor, by beating with flails or treading with horses' hooves until the kernel fell free of the straw and was scooped up and winnowed, by the wind or by an artificial wind created by a fanning mill. More efficient machines (eg, the generation of reapers triggered by the inventions of Cyrus McCormick and Obed Hussey in the US and Patrick Bell in England) allowed farmers to harvest larger and larger amounts of grain. Larger threshing machines, initially powered by one- or 2-horse treadmills, and later by immense steam-driven traction engines, began to appear. Mechanical threshers were manufactured by Waterloo, Sawyer-Massey, Hergott, Lobsinger, Moody and other Canadian manufacturers.

Seed drills changed from primitive, arm-held broadcast seeders to precisely engineered 11, 13 and 15 run, horse-drawn grain drills that punched seeds into nicely tilled ground at precise depths and intervals.

Tillage machinery was also improved. Harrows made from tree branches, with iron spikes driven into them, were replaced by various steel-spring harrows that were able to tear freshly turned sod into a weed-free seedbed in much less time." Source: Skeoch, Alan. "Agricultural Implements". The Canadian Encyclopedia, 04 March 2015, Historica Canada. https://www.thecanadianencyclopedia.ca/en/article/agricultural-implements . Accessed 01 March 2019.



Image from film at Romance Of The Reaper https://archive.org/details/10604-the-romance-of-the-reaper-vwr under /by-nc-nd/4.0/



Source: Tracteur Froelich https://fr.wikipedia.org/



Source: An 1890's Sawyer Massey threshing outfit.
Source: Manitoba Agricultural Museum An 1890's Sawyer Massey threshing outfit | Manitoba Co-operator Used with permission.

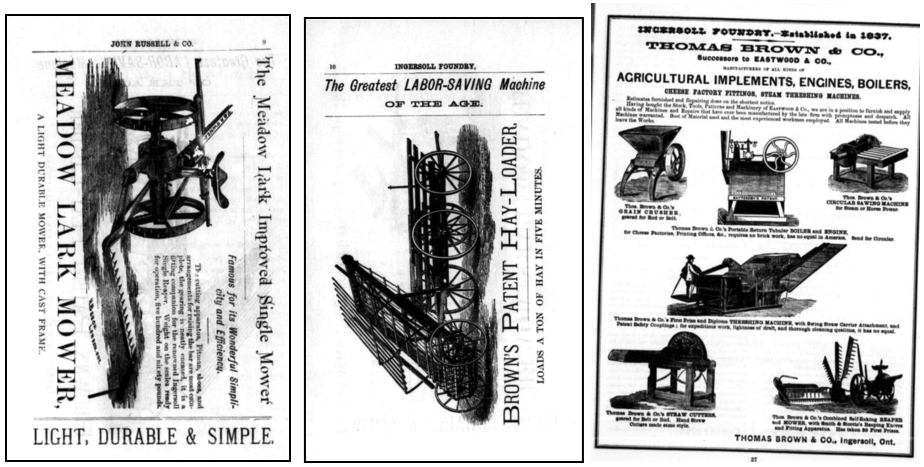
Learning Intentions	Success Criteria	
To explain how industrialization changed the farming industry.	I can explain how industrialization changed the farming industry.	❑

Agricultural changes in terms of machines & techniques:

“Rapid change provided opportunities for industrialists. The tiny local blacksmiths' shops of Canadian villages began to increase in size as the demand for iron increased, particularly after the railway boom of the 1850s, which allowed cheap iron to move more easily from England and the US. The demand for iron for engines, rolling stock and track led to the establishment of a sophisticated iron industry in Hamilton, Ontario. Earlier ironmakers (eg, the Van Normans) had relied on poor-grade bog iron. In the 1850s higher-quality iron stimulated the growth of local foundries.

Iron began to replace wood in farm implements. **Implement makers grew in number, particularly around the western end of Lake Ontario, where Massey, Verity, Patterson, Wilkinson, Sawyer, Cockshutt, Wisner, Harris and others established their factories, making plows, cutting boxes, fanning mills, seed drills, reapers, mowers, threshing machines and steam engines.** Because it was cheap and plentiful, wood was used wherever possible. Iron, however, was essential for cutting and moving parts in general. Larger- and-larger-scale implement makers seemed to sprout up overnight; some of these companies, eg, those that were conservative or undercapitalized, disappeared as quickly; others thrived and continue to dominate the farm machinery industry into the late 20th century”

Skeoch, Alan. "Agricultural Implements". The Canadian Encyclopedia, 04 March 2015, Historica Canada. https://www.thecanadianencyclopedia.ca



Pages out of John Russell & Co., manufacturers of agricultural implements [Ingersoll Ont.?: s.n., 1883?] https://www.canadiana.ca/view/oocihm.58949/6?r=0&s=1 and https://www.canadiana.ca/view/oocihm.93251/46?r=0&s=1
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Source: Sawyer-Massey “Peerless Separator, Model 1315” Thresher, Artifact No.1970.0391
https://ingeniumcanada.org/agriculture/artifact/sawyer-massey-peerless-separator-model-1315-thresher Used with permission.

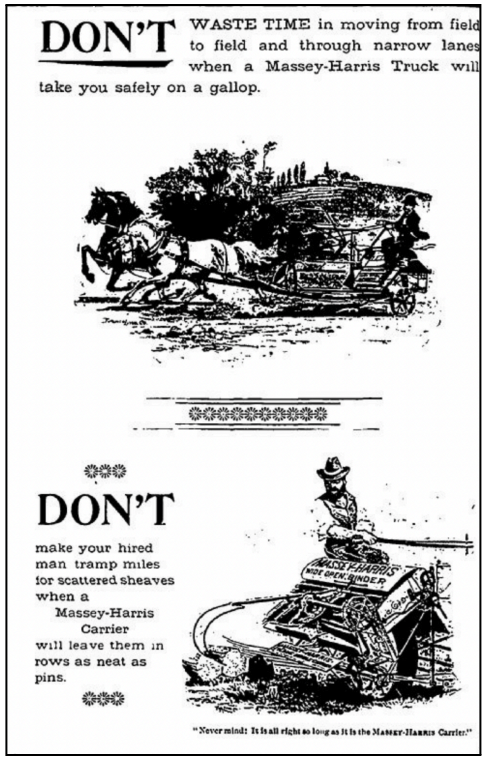
Learning Intentions	Success Criteria	
To explain how industrialization changed the farming industry.	I can explain how industrialization changed the farming industry.	❑

Industrial methods lead to greater production, but not always to more diversification:

"The Newcastle Foundry and Machine Manufactory provides a useful example of how industries complemented each other. Established in 1847 in Newcastle, Canada West, by Daniel Massey, this was the chrysalis from which Massey Manufacturing and then Massey-Harris and, in the 20th century, Massey-Ferguson would emerge. Massey began by pioneering the production of mechanical threshing machines, which was possible only because of the availability of all kinds of metal products, everything from iron ingots to nails. From Newcastle, Massey could ship up and down Lake Ontario, but there was limited roadway access to the interior of the colony. By the mid-1850s the company relocated to Toronto where it had improved access to raw materials, nearby foundries, and farmers to whom it could sell its products. This small industrial revolution, so intimately related to the agricultural well-being of the colony, had an almost immediately perceptible effect. One observer in 1860 commented that “an American machine is now as great a rarity as a Canadian one was a few years ago.” This focus on, and success in, the manufacturing of agricultural implements followed on the continued Upper Canadian belief in an expanding farm frontier as an engine of growth and the wheat economy. Implement manufacturing, then, was something of an advance in terms of industrialization, but it ultimately preserved the staples orientation of the wheat economy and did not lead to agricultural diversification. That is to say, a threshing machine does nothing to push a farm economy from monoculture to robust self-sufficiency and, say, wool production."

Source: 9.9 Manufacturing, Railways, and Industry: Early Days opentextbc.ca/





Two of several advertisements included in the Massey-Harris illustrated : [New ser. v. 1, no. 4 (July/Aug. 1897)] https://www.canadiana.ca/ © 2021 Canadian Research Knowledge Network and original works assumed under Public Domain. See terms.

Learning Intentions	Success Criteria	
To explain how industrialization changed the farming industry.	I can explain how industrialization changed the farming industry.	❑
To explain the impacts of industrialization and urbanization on the dairy industry? See also "What are the impacts of industrialization and urbanization on the dairy industry?" at https://docs.google.com/document/d/1e9FpHJnvqzW2xf4fHJZc17tJ14I_Z5ltYSCKVBoZMcM/	I can explain how industrialization and urbanization impacted on the dairy industry	

Dairy Industry: Milk Production rooted in our history!

"Centuries before the founding of Canada, two passengers who would profoundly shape the emerging nation arrived in a small port that would become Quebec City. The ship Don de Dieu carried Samuel de Champlain credited today as the founder of Quebec. Also aboard the vessel, known in English as Gift of God, was a largely unheralded trailblazer—the first domestic dairy cow to arrive in New France. Her descendants survive to this day and the aptly named Canadienne is Canada's only native breed."

Source: Dairy farmers DEEPLY ROOTED FOR A STRONG FUTURE
dairyfarmers.ca/content/download/4896/46370/file/PLC_Livre-Historique_EN_final.pdf

THE CANADIENNE [The name of the cow, that is]

Witness to the first settlers: It is told that Canadienne cattle made the voyage with Samuel de Champlain in the era of New France, arriving here between 1608 and 1660. Descended from animals imported from Normandy and Brittany, this was the first cattle breed to be developed in North America. Closely associated with the colonization of French Canada, the Canadienne breed dominated until the beginning of the 19th century. Later, the breed was threatened by the introduction of British stock, before being taken in hand in 1883 by a small group of concerned breeders. Today, the Canadienne breed is mainly found in the province of Quebec. This cow's coat may be black, brown, tawny or reddish-brown. It is said that the generally black pigmentation of her coat and skin and fine glossy hair provide good adaptability to the hot and sunny weather of our summers. The Canadienne is recognized for her hardiness and adaptability to inhospitable soils and climates. Her milk is also in demand for cheese production.

Source: COWS BREEDS http://lait.org/en/the-farm-in-action/the-sacred-cow/cows-breeds/

"dairy-processing industry began in the early 1600s, when French settlers brought in dairy cattle. For the next 250 years, dairy production remained a farm or cottage industry. As towns and villages were established, fluid milk, butter and cheese were provided by local farmers, a situation that did not change until the 1850s."

Source: Barratt, Robert F.. "Dairy Industry". The Canadian Encyclopedia, 13 January 2015, Historica Canada. https://www.thecanadianencyclopedia.ca/en/article/dairy-industry . Accessed 01 March 2019.



"The Canadienne is a dairy breed developed in French Canada from cattle imported back in the XVIIth century from Brittany and Normandy. The Canadienne is the only breed of dairy cow native to North America. At its origins, it was not the result of genetic blends and was once exclusively and intimately linked to Quebec's terroir*.

* Terroir: A place-based designation, intimately linked with the land, the soil and climatic conditions.

Source: Bovin de Race Canadienne dans Charlevoix
www.vachecanadienne.com/the_canadienne_cow.aspx

Learning Intentions	Success Criteria	
To explain how industrialization changed the farming industry.	I can explain how industrialization changed the farming industry.	❑
To explain the impacts of industrialization and urbanization on the dairy industry? See also "What are the impacts of industrialization and urbanization on the dairy industry?" at https://docs.google.com/document/d/1e9FpHJnvqzW2xf4fHJZc17tJ14I_Z5ltYSCKVBoZMcM/	I can explain how industrialization and urbanization impacted on the dairy industry	

Milk yes, But also cheese and butter

"**A heritage of cheesemaking:** The cheesemaking tradition in Canada is double-stranded, woven from our French and English heritage. While French settlers brought with them methods for making soft, ripened cheeses, United Empire Loyalists, fleeing the American Revolution, introduced us to the distinctly British characteristics of Cheddar. While cheese continued to be made in small hand-made batches and even exported by the 19th century, it was an American, Harvey Farrington, who took the next logical step. Farrington had American technology to set up cheesemaking on a large scale, but first he needed milk - lots of it. Mobilizing his persuasive Yankee ways, Farrington convinced farm women to bring him their milk instead of making their own cheese. Thus was the first Canadian cheese factory, "The Pioneer" opened in Norwich, Ontario, in 1864. Farrington was simply the first in a coming wave of industrious cheesemakers. By 1867, the year of Confederation, some 200 factories were established in Ontario alone. "

Source: Cheese in Canada by Dairy Goodness at : The story of cheese | Canadian Goodness

TABLE IV.—Cheese and butter production by provinces from 1848 to 1901 (compiled from census returns).

Years.	Ontario.		Quebec.		New Brunswick.	
	Butter.	Cheese.	Butter.	Cheese.	Butter.	Cheese.
	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.
1848	3,380,406	668,357				
1851			9,610,036	764,302		
1861	25,822,264	2,687,172	15,906,949	686,297	4,591,477	218,067
1871	37,623,643	3,432,797	24,289,127	512,435	5,115,947	154,758
1881	55,712,285	48,382,501	31,129,189	7,950,328	6,527,176	218,600
1891	56,764,948	73,334,962	32,337,054	27,896,891	7,806,268	310,236
1901	62,938,110	131,967,612	42,982,188	80,630,199	8,130,347	1,892,686

Years.	Nova Scotia.		Prince Edward Island.		Manitoba.	
	Butter.	Cheese.	Butter.	Cheese.	Butter.	Cheese.
	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.
1848						
1851	3,613,890	652,069				
1861	4,532,711	901,296	711,487	109,133		
1871	7,161,867	884,853	981,939	155,524		
1881	7,465,285	908,225	1,688,690	196,273	957,152	19,613
1891	9,019,158	1,046,013	1,969,213	108,188	5,019,928	680,972
1901	9,394,953	568,147	1,960,332	4,457,519	10,233,671	1,289,413

Source & more info. at An historical and descriptive account of the dairying industry of Canada. at Dairy Industry of Canada by J.A. Ruddick | Publications.gc.ca, page 19

Learning Intentions	Success Criteria
To explain how industrialization changed the farming industry.	I can explain how industrialization changed the farming industry.
To explain the impacts of industrialization and urbanization on the dairy industry? See also "What are the impacts of industrialization and urbanization on the dairy industry?" at https://docs.google.com/document/d/1e9FpHJnvqzW2xf4fHJZc17tJ14l_Z5ltYSCKVBoZMcM/	I can explain how industrialization and urbanization impacted on the dairy industry

First in class [Cheesemaking schools!]:

"On a fateful day in the spring of 1881, Édouard-André Barnard rolled up his sleeves and commenced cleaning his barn from top to bottom. Once finished scrubbing, he then whitewashed the walls and installed a cheesemaking vat. Thus was born North America's first cheesemaking school, in Saint-Denis-de-Kamouraska, Québec. In 1901, Canada's first dairy school embarked on a modest experiment: the manufacture of Canadian Camembert and Feta. While the experiment was a success, it seems no one wanted to eat the results, which were considered too exotic for the tame palates of the day. That dairy school, opened in 1892 in Saint-Hyacinthe, Québec, and today an important institution, has been a leading force ever since. It remains the chief centre for research, innovation and experimentation in Canadian cheesemaking - even if it is occasionally ahead of its time."

Source: Cheese in Canada by Dairy Goodness at : The story of cheese | Canadian Goodness



Image source: First dairy industry school in North America in Saint-Denis, Kamouraska County., By Paul Carpentier via banq.qc.ca:443/patrimoine/details/52327/4015108 under license by-nc-nd

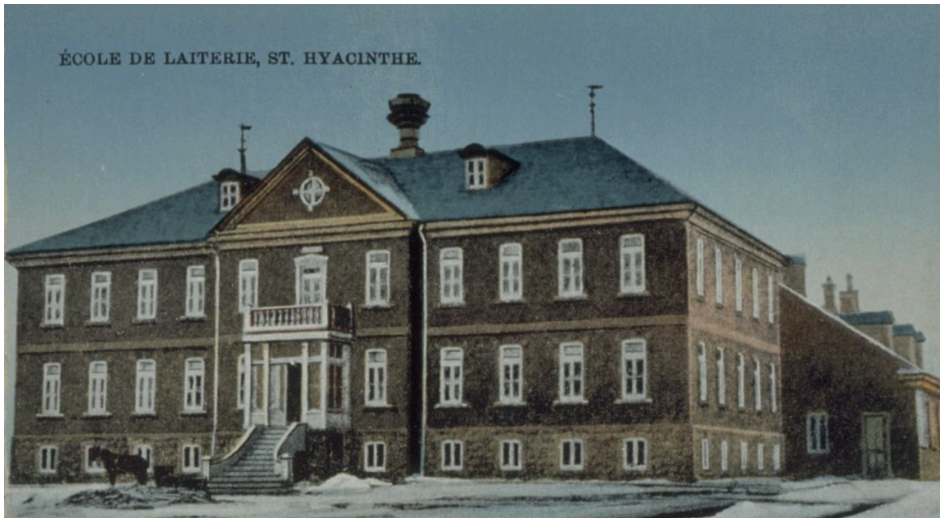


Image source: École de laiterie, St-Hyacinthe, Post card, Editor: Saint-Hyacinthe : E.H. Richer & Fils, https://collections.banq.qc.ca/ark:/52327/4130 Public Domain



See also Saint-Hyacinthe, P.Q., Canada / Photos by B.J. Hébert Montreal, Canada : Published by the Commercial Magazine Company, Limited, 1912, page 11 https://www.canadiana.ca/view/oocihm.75567/12?r=0&s=3 © 2021 Canadian Research Knowledge Network and original works assumed under Public Domain. See terms

Learning Intentions	Success Criteria	
To explain how industrialization changed the farming industry.	I can explain how industrialization changed the farming industry.	❑
To explain the impacts of industrialization and urbanization on the dairy industry? See also “What are the impacts of industrialization and urbanization on the dairy industry?” at https://docs.google.com/document/d/1e9FpHJnvqzW2xf4fHJZc17tJ14l_Z5ltYSCKVBoZMcM/	I can explain how industrialization and urbanization impacted on the dairy industry	

Decline of Women in the Canadian Dairying Industry

"Before the rise of the factory system for the production of cheese and butter, women were the main producers of these products in Canada. Initially production centred on providing for household consumption, but as markets improved women's dairying became an important source of income for farm families. While women remained in the industry as it expanded in its pre-industrial stage, they did not manage to develop large-scale capitalist enterprises as the industry moved from household craft production to more capital-intensive factory production. Instead, women's work in dairying tended to remain labour-intensive and confined to what could be performed within the household. The patriarchal structure of the household and the cultural assumptions about the nature of the sexual division of labour were the most significant factors leading to the decline of women's activity in this industry. But the government was not neutral in the process: its actions also contributed to the male domination of dairying."

Source: The Decline of Women in the Canadian Dairying Industry at www.sfu.ca/~mcohen/publications/Womenlab/dairying.pdf





Image source: Femme inconnue avec une baratte près de Long Branch, Ontario, 1893 https://commons.wikimedia.org under public domain

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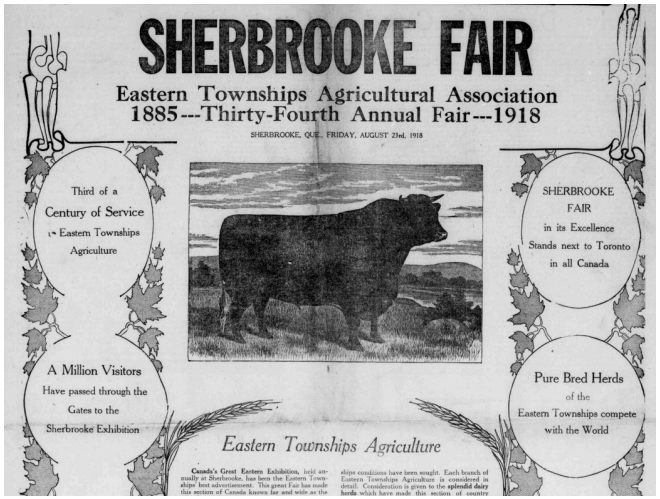
Shift from wheat to dairy farming and other livestock.
Ex. Eastern Townships

"The prominence of wheat is seen in the fact that. despite marked declines in acreages and production of wheat in the St. Lawrence lowlands in the l830s. largely as a result of the wheat-fly. most of the study area experienced an increase of up to 200 per cent in production between 1831 and 1844.9 This brought Eastern Townships' wheat production up to a level of l~ per cent of the total Quebec production in 1844. an increase of 11.4 per cent over 1831. This trend was. however. reversed a decade later in conformity with the growing production of oats and other fodder crops within a dairy and livestock agricultural system. The decline of wheat production as a frontier staple also largely resulted from the unsuitability of the land for its cultivation and resultant low yields."

Source: FOREST UTILIZATION IN THE EASTERN TOWNSHIPS 1800-1930 by John Derek Booth. p. 47
http://digitool.library.mcgill.ca/webclient/StreamGate?folder_id=0&dvs=1554404932148~71

The Townships still faced the problem of the potato blight and the wheat midge… but between 1844 and 1851 the number of cattle in the region increased from 63,657 to 95,928, and horses from 12,102 to 18,709. Sheep failed to keep pace with this expansion (82,652 to 92,844) because there were still no railroads to carry them or their wool, and they could not be walked very far to market. However there was a remarkable resurgence in the number of pigs raised (16,134 to 63,814). Most of the pork must have been destined for internal consumption because the American demands were satisfied by their own midwestern corn fed swine. Dairy products were low enough in bulk and high enough in value to allow much of the two million pounds of butter and half a million pounds of cheese manufactured in 1851 to be absorbed by the American market. But the counties in the South-West which had better access to that market - Brome, Missisquoi, Shefford, and Stanstead - would long dominate the dairy industry. Maple sugar manufacturers also benefited from American demand, for production tripled between 1844 and 1851. However the Townships was obviously in no position to ship grain anywhere, which explains why barley and rye, in demand by American brewers and distillers , increased by only 5,320 and 37,845 bushels, respectively, while the fodder crops - oats, buckwheat, and corn - increased by 307,184; 149,978; and 67,176 bushels, respectively. The coming of the railroads in the 1850's would encourage the transition to dairy and livestock because they would carry cheap western grain to the local market just when it was beginning to grow.

Source: THE PEACEABLE CONQUEST FRENCH CANADIAN COLONIZATION IN THE EASTERN TOWNSHIPS DURING THE NINETEENTH CENTURY fcy John Irvine Little https://ruor.uottawa.ca/bitstream/10393/21336/1/DC53722.PDF



Source and more information and photos! At Sherbrooke fair
collections2.banq.qc.ca/irn03/dn3097/src/1918/08/23/5274927_1918-08-23.pdf



Sugar shanty near Bromptonville, Eastern Townships, QC, 1871-72
Alexander Henderson, 1871-1872, 19th century © McCord Museum under CC license
https://creativecommons.org/licenses/by-nc-nd/2.5/ca/

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Canada’s Dairy origins brief overview	
“Canada's modern, highly sophisticated, multibillion-dollar dairy-processing industry began in the early 1600s, when French settlers brought in dairy cattle. For the next 250 years, dairy production remained a farm or cottage industry. As towns and villages were established, fluid milk, butter and cheese were provided by local farmers, a situation that did not change until the 1850s. The modern factory method of cheesemaking was introduced by Jesse Williams, who built the first cheese factory in Rome, New York, in 1851. The first cheese factories in Canada were built in Oxford County, Ontario, in 1864 and at Dunham, Québec, in 1865. About 20 years later, the factory method of cheese production was introduced to Scotland where it was called the Canadian cheese-making system. By 1873 there were about 200 cheese factories in Canada. In 1873 a group of farmers established the first creamery in Canada at Athelstan, Qué, but it survived for only about 10 weeks. Another creamery, started in Helena, Qué, in the same year, remained in production for about 11 years before being converted to a cheese factory.“ Source: www.thecanadianencyclopedia.ca/en/article/dairy-industry	

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Quebec Dairy History brief overview

“The French colonists had a good knowledge of butter and cheese-making, and each farm produced sufficient to supply its own needs. The United Empire Loyalists brought the art to the Eastern Townships and to the lake Ontario district. In 1801 there was a surplus of butter and cheese exported from Kingston. The imports, however, exceeded the exports until the beginning of the industrial stage with the establishing of the first cheese factory in Oxford county, in 1864. The first creamery for butter-making opened at Athelstan, Huntingdon county, in 1873.

Dairying for the most part is centred around the large cities, because of marketing facilities. It plays a small part in the average Canadian farmer's enterprise, but owing to the decline in grain prices and production in the past few years dairying has increased considerably in the Prairie provinces. In Ontario, Quebec, and the Maritimes a great stimulus was provided by the introduction of cheese and butter factories. Dairy factories are operated for the most part by individuals or partnerships. This is particularly true of Quebec. Ontario rather favours incorporated companies; and for that reason its factories are larger. Co-operative associations predominate in the Maritimes and the Western provinces. Owing to the difficulty of manufacturing cheese in the winter there has been a tendency in Quebec to form combined factories concentrating on butter in winter and both products in summer. This enables the plant to keep open the entire year.”

Source and more information at
Dairying in Canada by Claude Bélanger, Marianopolis College
http://faculty.marianopolis.edu/c.belanger/QuebecHistory/encyclopedia/DairyinginCanada-Canadiandairying.htm

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Overview of butter making experience & changes in Quebec

Making butter

My family specializes in making butter. To do this, we take the cream and put it in a butter churn. We then take turns cranking the handle that turns the paddles inside the churn, which stirs the cream. After a while, the cream becomes whipped cream, and eventually, butter. It’s slow and exhausting work.

The economy

One day I want to have a really large herd so that I can make butter in larger quantities. Cow breeding and the dairy industry play an important role in Quebec’s economy. Products are even exported to England. Many farmers are turning to new crops based on local needs. Each farmer specializes according to the qualities of his land. Farmers in the Joliette region grow tobacco, while those in the Saint-Hilaire, Rougemont and Oka regions have orchards with a wide variety of apples. Many other farmers specialize in growing potatoes.

A new reality

As for me, I want to be a successful farmer. Next year I’ll be going to the Sainte-Anne-de-la-Pocatière agricultural school where I’ll learn new and better techniques and discover the latest inventions. Before, people used to farm just to feed their families; this is called subsistence farming. But today, farmers mainly grow crops for sale. The family is fed first, of course, but a lot of the surplus is sold. That’s why it’s important to learn the best techniques to ensure the land is very productive.

Author: Service national du Récit de l’univers social via https://blogdev.learnquebec.ca/societies/societies/quebec-around-1905/agriculture/









Video narration and other images available via Societies and Territories site, section for Quebec around 1905 » Agriculture at https://blogdev.learnquebec.ca/societies/societies/quebec-around-1905/agriculture/

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Now please visit and consider the separate document collection and task suggestion, visit RECITUS English adaptation of:

"What are the impacts of industrialization and urbanization on the dairy industry?

at https://docs.google.com/document/d/1e9FpHJnvqzW2xf4fHJZc17tJ14l_Z5ltYSCKVBoZMcM/edit?usp=sharing



Documents d'histoire et de géographie — documents.recitus.qc.ca

STUDENT Notebook

What are the impacts of industrialization and urbanization on the dairy industry?

INSTRUCTIONS

Competency 2: Interprets a social phenomenon

Intended intellectual operations
- Establish facts
- Establish connections between facts
- Determine changes and continuities

Instructions

1- Clarify how the milk industry developed in the 19th century with relation to:
- dairy facilities;
- pasteurization;
- milk products;
- the creation of cooperatives;
- of distribution.

2- Clarify the link these themes have with urbanization and industrialization (see definitions in context).

3- Answer the question: What are the impacts of industrialization and urbanization on the dairy industry?

Documents d'histoire et de géographie — documents.recitus.qc.ca

TECHNOLOGY

Using a drawing or layout software (Google Draw, Microsoft Word, Pages, Writer, PowerPoint, Keynote, Impress, etc.), to create a poster promoting milk in the advertising style of the time.

On your poster, you must provide:
- the name of a cooperative at the time;
- a slogan;
- the types of products;
- a statement related to the treatment, preservation, freshness and quality of the milk;
- a statement related to the distribution of milk.

Here are some examples of milk posters of the time that can serve as a source of inspiration:

Laiterie St-Laurent, Coopérative St-Antoine, Laiterie perfection, Montréal Dairy, Mont-Royal, Limoge, Fry, Baumert.

Lumberjills ?

Extra Research project: Lumberjills, a term that didn't exist until WW1

"Even though logging was by and large a male-centric industry, there were women present on campsites. These women were typically wives/daughters/relatives of the foremen and they worked as either cooks or cleaners. Most of the loggers' wives would have been too busy taking care of the farm to join their husbands. I could not find any source that stated whether or not women assisted with the hard labour, but given that the term "lumberjill" did not emerge until WW2, it seems unlikely, though not impossible."

Source: 19TH CENTURY LUMBERJACKS WERE KINDA CRAZY