

Effects of Aboriginal Land Use on Forest Development

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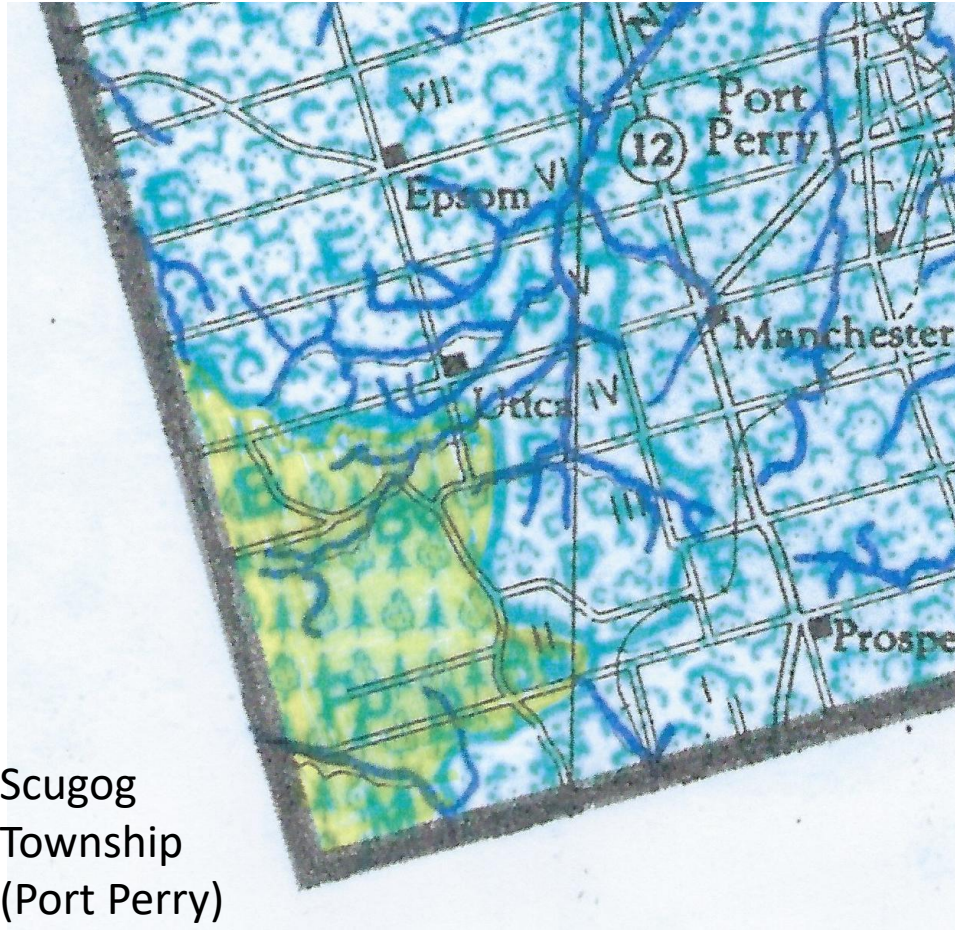
Forest History in Southern Ontario

- When doing a forest history for a site in Durham Region, within biking distance of Durham Regional forest, I was amazed to discover that there were records of forest coverage available which dated back to 1809 and earlier
- My area of interest in Scugog Township, had been recreated as part of a map of forest types in the 1970's for a government publication



Vidioman, Public domain, via Wikimedia Commons

The map included an abrupt change in forest type. Why?



- A **pine-oak forest** was recorded in the yellow shaded section. It was a *marked* change from the surrounding forest, a predominantly **maple-beech-basswood forest** with pine as a common secondary species

Typically white pine distribution in a mixed forest occurs following disturbances



This pioneer era drawing illustrates what one would normally expect to see when looking at white pine within maple-beech forests in southern Ontario

"BEECHENHURST, THE RESIDENCE OF D.^R J.H. SANGSTER, PORT PERRY, ONTARIO CO. CANADA.

Archeologists such as Irene Bowman report that pine-oak forests can occur following maize (corn) cultivation by Huron First Nations

- For agricultural, fire was used to clear underbrush prior to planting
- Trees were first girdled to kill them: lower limbs may have been removed and then the tree set on fire
- Oak bark is fire resistant so these trees tend to remain in the area while mature white pine is also fire resistant
- Crops consisted of corn, squash and beans with other crops also grown such as tobacco, goosefoot, and sunflowers

After the corn came the white pine

- Once the soil is depleted, white pine regeneration is more likely to occur due to its ability to grow in nutrient poor soils
- The First Nations people would move to a new more fertile area when their land was depleted in 10 to 20 years. A white pine forest could grow in these depleted soils while the oaks could have survived the farming period
- This resulted in large tracts of pine-oak forests in areas such as Pickering, Uxbridge and Scugog Townships within Durham Region where the Huron settlements historically occurred
- Archeological studies in Durham Region indicate that the Hurons left the area in the mid to late 1400s due to conflict

Timeline of white pine growth in Scugog Township

These white pine may have been ~ 300 years old at the time of harvest.

After 1490 the Ancestral Wendat (Huron) abandon the area and the land begins to seed in with white pine and red oak.

European diseases devastate First Nations populations.

1809 pine-oak forest shown in Scugog Township is recorded by surveyor Samuel Street Wilmot.



Land is used by the Haudenosaunee (Iroquois). They are followed by the Ojibwa and Mississauga who use it for hunting and fishing.

Timeline of British forest clearances

In the late 1700s the British government begins harvesting white pine in their Canadian colony for the masts of navy ships - to protect their territory from the American expansion.
(American Revolution -1776)

Early 1800s: British subjects are offered free land if early pioneers could remove timber from their lots within a 3-year window and begin farming.



1791: United Empire Loyalists from the USA are offered free land in Upper Canada leading to rushed land surveys to provide land for these settlers.

White pine is often reserved or even stolen from properties prior to settlement due to their high value for the British Navy masts.

Early Surveys



Augustus Jones with Lieutenant John Graves Simcoe during the Cutting of Yonge Street illustration by Charles William Jeffery

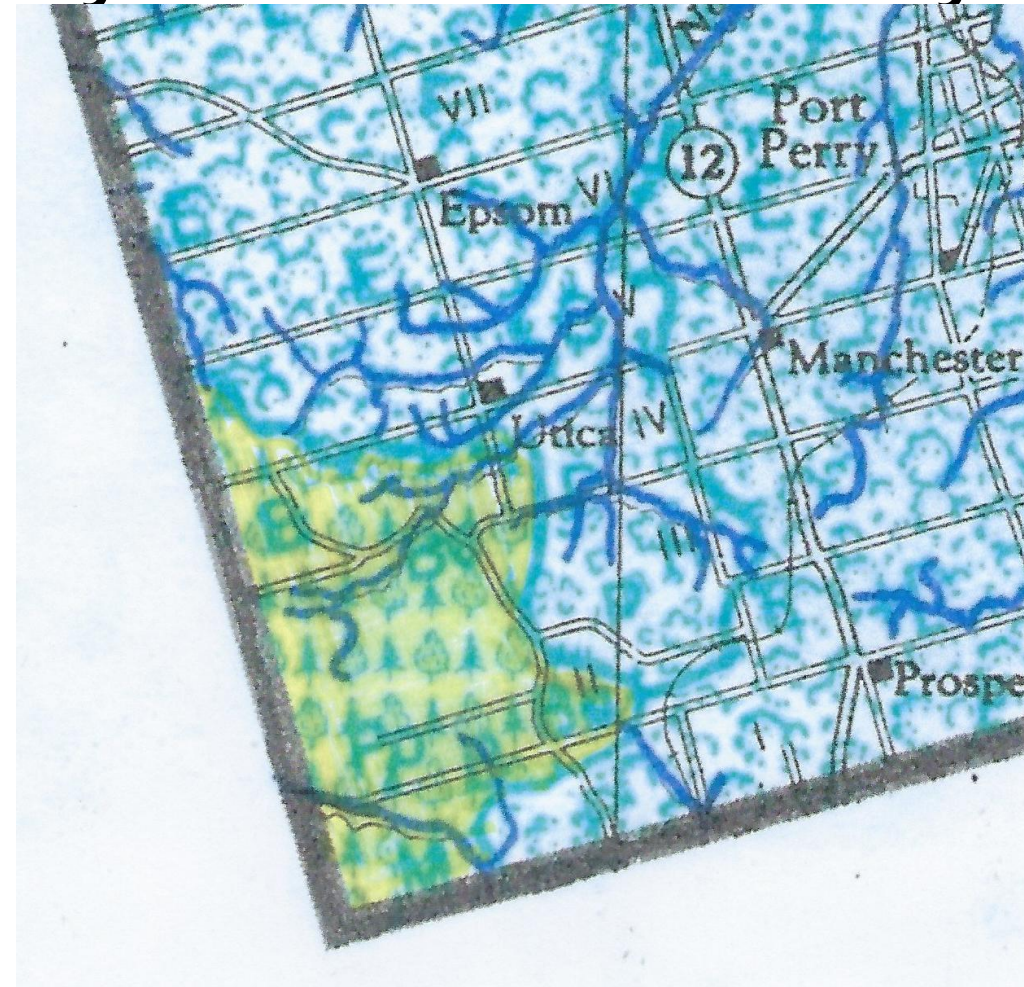
- Records were kept of tree species and their abundance; water bodies such as streams or lakes; and any other significant features

Tree ages were not known

- The method of tree-ring dating for trees was not discovered until 1930
- Surveyors did record tree height
- Tree species and relative abundance was recorded, thus the maps were recreated using this information
- The Draper archeological site in Pickering, close to Scugog, had a maize corn field that developed into a white pine forest which averaged 48m tall and was used for naval masting

Aboriginal agriculture resulted in large pines highly coveted by the British Navy

- The Scugog Township pine-oak forest includes a pioneer road called Mast Road
- It is in the Oak Ridges Moraine where deforestation was significant
- It is property very close to Durham Regional Forest where ecological damage was severe

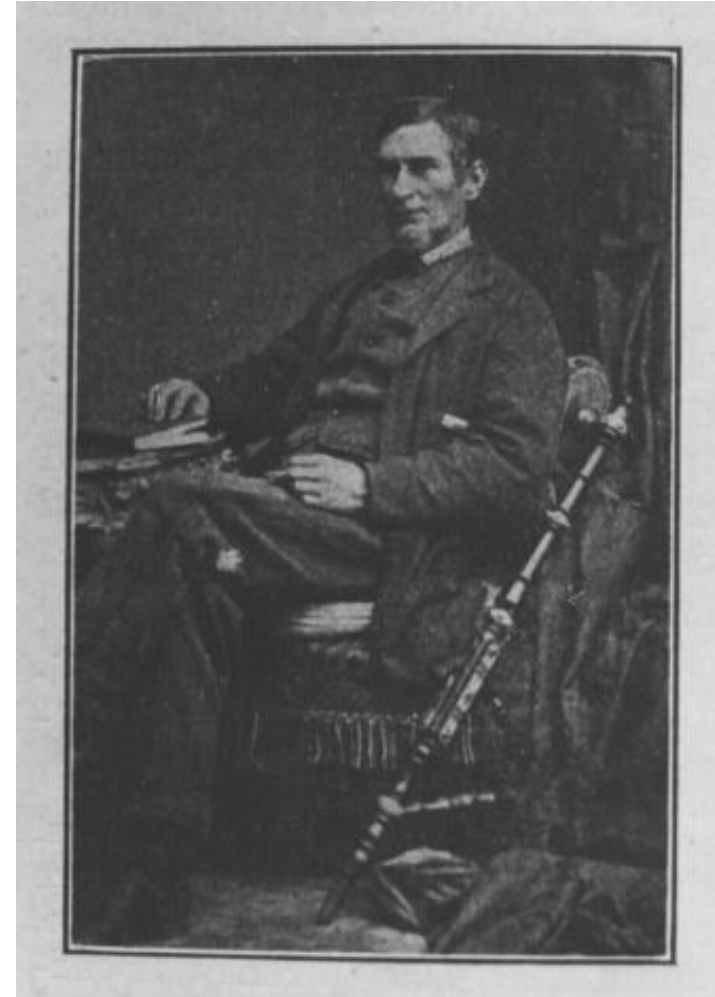


Erosion and Soil Depletion Result from Pioneer Farming

- In the rush to settle the Canadian British colony, very rapid forest removal occurred with white pine being in high demand
- Soils quickly eroded following excessive land clearance. Soil fertility was quickly depleted due to erosion and lack of fertilizers. While the Huron moved to new territory after declining soil fertility, the British had a culture of property ownership and the farmers were left with land which was unable to support agriculture
- Pioneer farmers could not farm successfully so they turned to the only other occupation they knew which was logging, worsening the environmental devastation

Some surveyors became prominent in Upper Canada history

- Augustus Jones surveyed Uxbridge and Pickering in 1798, while Samuel Street Wilmot and his wife surveyed Reach Township (now Scugog Township) in 1809



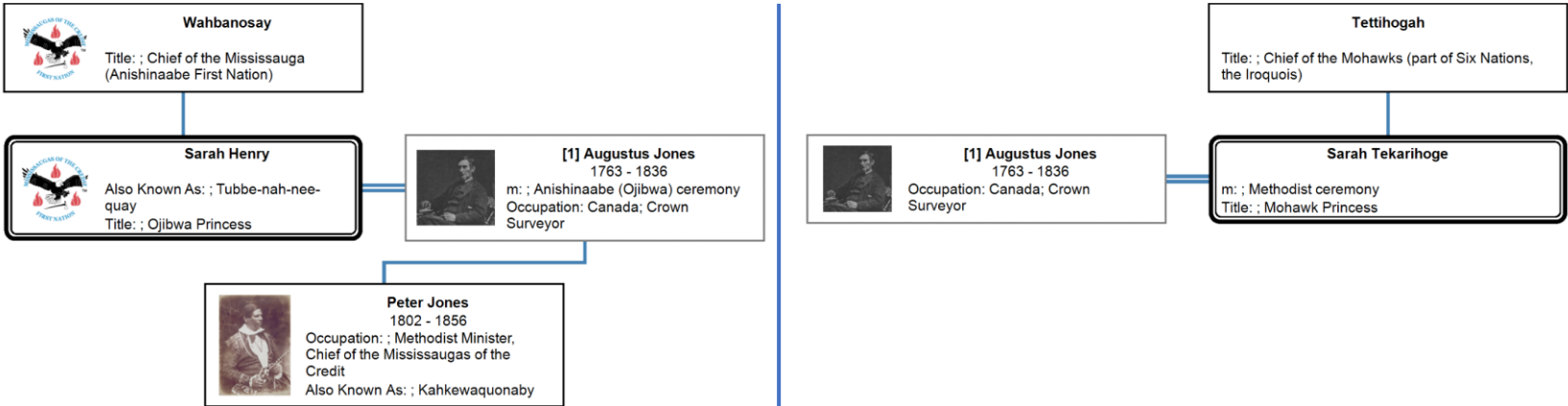
Crown
Surveyor,
Augustus Jones

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The Complex Life of Augustus Jones, Crown Surveyor

- Augustus marriage two First Nations Princesses while both were still living
- His first wife was Tubbe-nah-nee-quay (Sarah Henry), whom he married in an Ojibwa ceremony. She was the daughter of the Anishinaabe Chief of the Mississauga's of the Credit, Wahbanosay
- His second wife was also a Princess but she was the daughter of a rival chief of the Mohawks, Tettihogah. Her name was Sarah Tekarigoge and this was a Methodist marriage ceremony

The Two Wives of Augustus Jones



First Family – Ojibwa Connections

Mississauga of the Credit
(Anishinaabe)

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Library and Archives Canada



Second Family- Mohawk Connections

Haudenosaunee (Iroquois)

Augustus was a close associate of Joseph Brock (Thayendanegea) who was a Mohawk Military leader and Chief

Peter Jones (a.k.a. Kahkewaquonaby) was the second son from Augustus's first marriage



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- a Methodist Minister
- He became a Chief for the Mississauga's of the Credit First Nation
- He was an outspoken advocate for First Nations people and their difficulties in surviving a depleted environment and incursions by Europeans into their territory

The Environmental Movement Begins

- Surveyor Samuel Street Wilmot's son, Samuel Jr, became concerned about the excessive silting of rivers due to erosion following pioneer land clearances
- Samuel Jr. opened the first fish hatchery in Upper Canada and later became the Canadian Superintendent of Fish Culture
- Jones and Wilmot preceded Edmund Zavitz, Ontario's First Provincial Forester, advocating for the reforestation of southern Ontario to reverse desertification of the area and the protection of water bodies from degradation by silting



Samuel Wilmot,,
Library and Archives Canada

Surveyors see
Ontario's
forests

- Augustus Jones 1786-1792
- Samuel Street Wilmot 1773-1856

Their sons see
the effects of
deforestation

- Peter Jones 1802-1856
- Samuel Wilmot 1822-1899

Foresters begin
reclamation in
Southern Ontario

- Edmund Zavitz 1875-1968
- Ontario's first Provincial Forester 1912



The profession of forestry is introduced into
Southern Ontario to restore it's wastelands