

Harvesting Timber: Old Ways, New Ways



Activity Info

Level: primary/junior

Subject: language arts, science and technology, social studies

Skills: research, cooperation, communication [oral], hypothesizing, noting patterns and relationships

Duration: 1 or 2 class periods

Group size: any size; independent study and small groups

Setting: indoors

Pre-Activity Preparation:

- Obtain the animated short film *The Log Driver's Waltz* from your library or NFB
- *Chutes & Log Jams* board game, 4 markers and die — enough copies for your class to work in groups of 4 [e.g. 6 for a class of 24]. If you wish, have students colour and mount the game on bristol board.
- Set up two demonstrations:
 1. A square container [e.g. shoebox or smaller] and a selection of groups of similar shaped, and similar-sized objects to fill the box [e.g. 20 small 2.5cm styrofoam balls, 20 lengths of 2.5cm dowelling, 20 lengths of 2.5cm x 2.5cm scrap wood]
 2. A large, water-filled basin such as a dishpan. Float a number of craft sticks on top.



Summary

Students will explore the square timber trade, an important part of Canada's early history, and modern forestry practices through discussion, demonstrations, a game, group and independent research and oral presentations.



Learning Outcomes

By looking at past and present logging practices, students will:

- compare and contrast labour-based and technology-based approaches to the same task [i.e. cutting timber and transferring it to the mill]
- explore the reasons for, and the impacts of, change
- make observations about the way language evolves to reflect new ideas and new ways of doing things and the way words can become obsolete as old ways are lost

Adapted from materials from a variety of sources including the Friends of Bonnechere Parks and the Canadian Pulp and Paper Association.



Background

The Square Timber Trade

Lumbering and the forest industry have always been a vital part of Canada's economy and its development. Although Canada was first known for its fur trade, two events outside of Canada — the United States War of Independence in 1776 and the actions of Napoleon Bonaparte in 1809 — led to a sudden shift in Canada's economy. The United States, having just gained independence from Britain, was hesitant to renew trade with England and Britain's access to many of its European trading partners had been cut off by Napoleon's war efforts. Britain needed a new source of wood for its Navy. In 1809 Britain sent the first of her ships to Canada to be loaded with timber and, in a few short years, timber became Canada's primary export.

The wood for Europe was sent as squared timber. Hewers trimmed the rounded sides off huge logs 12m to 20m [40' to 60'] long resulting in a square-sided log. Logs had to measure at least 30cm x 30cm [12" x 12"] on each side but many were much bigger. The square timber had several advantages over logs: it could be more easily stacked in the hull of the ships, took up less space and it would not roll in the high waves of the Atlantic. The prized timber was white pine, eastern Canada's largest conifer, capable of reaching heights of 50m/150' or more. Some of these tree-length logs were left round and sent to England for the masts of the Navy's ships.

After the logs were harvested, they were floated downstream on log drives to main collecting points on the large rivers like the Ottawa and St. Lawrence where they were joined to form huge rafts of square timber cribs which were floated to Quebec City. There, the individual logs were loaded and stacked in ships bound for England.

Modern Forestry

Times have changed and so has the way we harvest and ship timber. Axes are a thing of the past, replaced by cutters using gas-powered chainsaws or by workers using mechanical harvesting equipment that resemble giant tractors or earthmovers. The timber is moved out of the bush using machines, such as skidders and forwarders, or even cables and helicopters in some of the hard-to-reach places in the mountains and coastal areas of British Columbia.

The last spring log drive in Canada took place on the Coulonge River in Quebec in 1982. Although river drives were an inexpensive way to move timber, better trucking and hauling systems became more appealing. As well, concerns about human and water safety issues, the effects of log drives on the river's health, and on the growth of the communities along the rivers' shores have all made the river drive less appealing. Instead, logs or chipped trees are usually shipped to the mills on large trucks.

Resources:

Adams, Peter. *Early Loggers and the Sawmill*. Toronto, Ontario. Crabtree Publishing Co., 1981. ISBN 0-86505-005-8

McKay, W. Donald. *The Lumberjacks*. Toronto, Ontario. McGraw-Hill Ryerson Ltd., 1978.

Websites: Forest company or provincial forestry association site, www.modelforest.net or www.cppa.org/english/

Part One

1. **Begin by playing *The Log Driver's Waltz*** video or by reading an extract from one of the children's reference books about square timber logging. Afterwards, discuss as a class what students know about logging in the 1800s and about log drives.



2. **What do they know about logging today?** You may wish to bring in their own experiences — perhaps they have gone to cut firewood with a parent, have visited a logging museum or lumber mill, or have some other related experience.



3. **For younger students:** Working with small groups, use the two demonstrations to help explain the reason for shipping squared timber and to show the challenge of moving logs on a river.

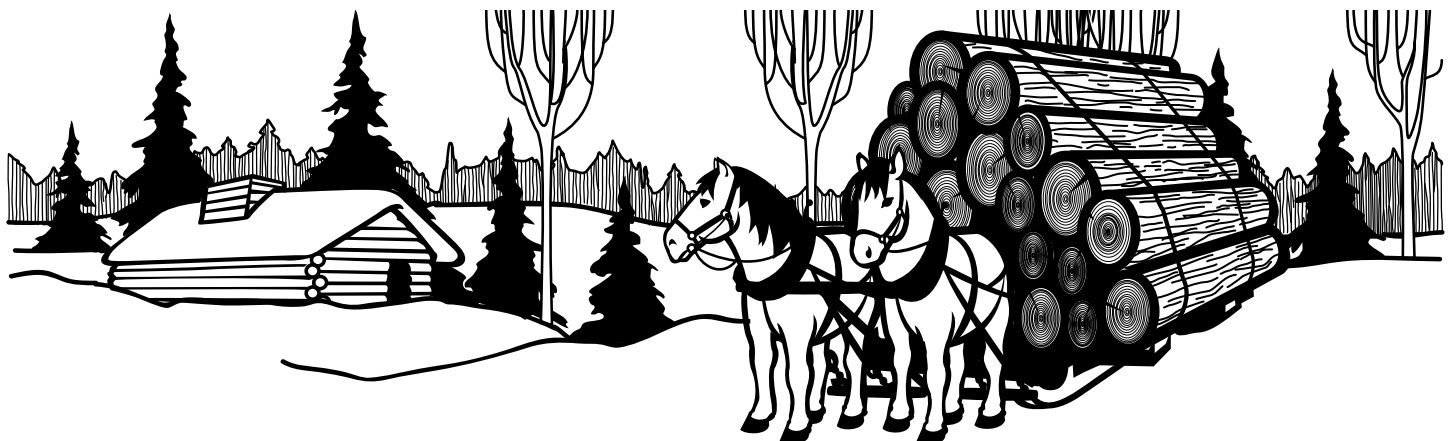
Demo #1: Have the children experiment with placing different shaped objects in the box. Which shape fits the best? Which might change position if the container moves? Which shape allows the most to be loaded?

Demo #2: Ask the children to work in pairs and, using craft sticks, to try to move the sticks together from one end of the dish pan to the other. How hard is it to do this? What are the challenges? Why do they think the river drivers tied the logs into rafts or used booms to surround them? Was this a good idea?

4. **For older Students:** Divide the class into work groups of 3 to 5 students and assign them a number of words from either of these two lists using the activity sheet to guide them. Give them 15 minutes to find out the definitions of as many of their words as possible. Ask the groups to explain the meanings of their words to the class.

Which words are no longer used? New? Have changed their meaning? Are there examples that they can think of from other areas [for example, computer, typewriter, record player?]

5. **Break into groups of 4** and close the lesson by playing *Chutes and Log Jams*.



OLD WORDS

teamster
swamper
axeman
rosser
liner
scorer
hewer
rollaway
loggers
log drivers
sky loader
lumberjack
road monkeys
foreman
timber mark
shanty
river pig
alligator
river drive
white water boys

NEW WORDS

skidder operator
chainsaw
yarding
cutter
harvester
log truck with pup
allowable cut
silviculture
block cutting
selective cutting
clear cutting
rigging-slinger
stockpiling
forewarder
feller-buncher
grapple-loader
high grading
marking [trees]
lop and top
forest management unit

Part Two

1. **Student Assignment:** Times have changed. You are a 101-year-old logger! Choose something important to logging today, such as a chain saw, mechanical peeler, skidder or logging truck. Find out what tool was used in the past to accomplish the same task. How has it changed and evolved over the years? Record your information and be prepared to be interviewed by your class.



A New Way to Harvest Using a Lesson from the Past

In Ontario's Lake Abitibi Model Forest, forest company Abitibi-Consolidated Inc. traditionally clearcut all lowland black spruce sites. It wanted a new way that would cause less damage to the site and reduce the cost and time it took for regeneration — the growth of a new forest. The Model Forest partners had noticed that the stands that had been logged with horses in 1915 to 1918 took less time to come back than those that were clearcut. Perhaps the new forest had received a head start from the young growth which had survived the more gentle horse-logging?

Working with the Canadian Forest Service and Laurentian University they worked to develop a way to mimic horse-logging. They came up with HARP [Harvesting with Regeneration Protection], a system that, like the horse-loggers before them, uses only specific travel corridors and where harvesters leave behind smaller trees to give the new forest a head start.

Costly at first, because the company had to purchase new equipment and train its operators, the HARP method has now shown that regeneration costs are less-expensive and the new forest is thriving.



Is Horse-Logging a Thing of the Past?

No, it's alive and well and, in some cases, it is even on the increase! Both oxen and horses have been used for logging but, nowadays, horse-logging is used mostly in small private woodlots or in areas that are managed for firewood or for extracting very high quality woods, for example removing black walnut or cherry for producing veneer.

Horse logging is as close to nature as you can get. I've been doing it for years.

- JACK NOLAN, SHAMROCK, ONTARIO,
OFF THE HISTORIC OPEONGO SETTLEMENT ROAD