

# Experiential Learning at New Hampton School

## Maple Sugaring Feasibility Study

### Spring 2007

Humans have boiled the sap from maple trees to make sugar since pre-historic times<sup>1</sup>. Today it is a multi million dollar industry<sup>2</sup> and a spring time tradition in New England. Yet this ancient craft is threatened by new human-produced problems. Soil acidification, acid rain, logging, global warming and road salting are now the leading causes of maple decline in our region<sup>3</sup>.

The Maple Sugaring Feasibility Study is a preliminary study to determine the viability of an annual student and staff maple sugaring operation as an educational tool for the New Hampton School. If the study is approved and carried out a report on the results of the study will be duly prepared addressing the technical and curricular viability of the project.

#### Study Parameters

Experiential Learning will conduct a small scale boiling run to assess the logistical and curricular feasibility of this project. This will involve,

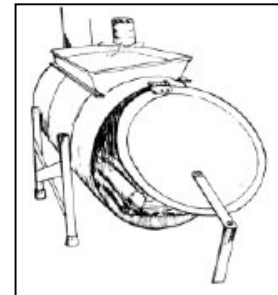
- Drilling small holes in five to ten trees
- Inserting ten to twenty taps into the trees
- Hanging traditional metal buckets with lids on these trees for two to three weeks
- Transporting sap to Burleigh Mountain by truck and sled
- Boiling sap to syrup by wood fire (enclosed in wood stove) approximately five to seven times during the run



#### Technical Goals

This study will assess,

- If maple sugaring is possible with tree resources available on the New Hampton campus (Burleigh Mountain maple trees were all logged off ten years ago)
- Quantity of sap available
- Amount of fire wood needed to boil sap to syrup
- Quantity and quality of syrup yield
- Feasibility of student involvement
- Viability of existing sap boiler system
- Potential future costs
- Institutional barriers and opportunities
- Potential detrimental and unanticipated side effects of the project to school property, personnel, image and campus attractiveness



#### Curricular Goals

This study will also assess,

- Community interest in maple sugaring
- Crossover points into Math, Economics, Science and History curricula
- Crossover points into positioning platform
- Crossover into planned Essential Explorations Week and iLab proposals

#### Feasibility Study Budget

Sap buckets, taps, lids, collection pails	\$0 – On loan from Hans Mundahl
Barrel stove evaporator	\$0 – Pre-existing
Fire wood	\$0 – Cut last spring from campus tree removal
Truck and fuel	\$0 – Donated by Hans Mundahl
Maple sap	\$0 – Free
Labor	\$0 – Vacation time donated by Dave Swanson

<sup>1</sup> "History of Vermont Maple Syrup." Vermont Living. 28 Feb. 2007  
<<http://www.vtliving.com/maple/history.shtml>>.

<sup>2</sup> "Maple Syrup Industry in Ontario." Ontario Ministry of Agriculture. 13 July 2005. 28 Feb. 2007 <<http://www.omafra.gov.on.ca/english/crops/facts/maple.htm>>.

<sup>3</sup> Maple Decline. Ithica: Cornell University, 1999. 28 Feb. 2007  
<<http://plantclinic.cornell.edu/FactSheets/mapledecline/maple.htm>>.