

**Vermont Maple Forest Products**  
**Forest Management and Business Plan**

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November 5, 2015

Project Beginning/Ending:

May 12, 2015 – December 9, 2015

A paper submitted in partial fulfillment of the  
requirements for the degree of Bachelor of Science  
in Forestry Operations at Paul Smith's College.

**Abstract:**

Maple syrup production is an extremely important aspect of the American economy in the northeast, generating around 132 million dollars in revenue annually across its U.S production range (United States Department of Agriculture, 2014). At the current rate of production U.S producers are presently only tapping 0.4% of the maples which may be available (Farrell & Chabot, 2012). Vermont has the greatest number of its trees tapped, with 2.94% of available trees currently in production. The low percentage of tappable maple trees in production has been seen as a short coming in the industry. However, this does create the possibility for entry into the industry. Vermont Maple Forest Products LLC is in current maple production and desires to produce on an industrial scale. Simon Boulet and Claude Deschenes (2005) found that the highest degrees of profit are generated when a producer is considered a medium(5,000-19,000 taps)-large (>19,000 taps) supplier. At this point costs per tap are reduced and sap yeilds increase. Vermont Maple Forest Products currently has the land available for potentially over 28,000 taps. To achieve this goal a business plan and forest management plan was developed and will be implemented across the tract with the goal of maple syrup production.

### **Acknowledgements:**

I would like to start off by thanking my cap stone mentor, Michael Farrell for his support and guidance throughout this project. If it were not for him this project would not have been possible. The feedback, revisions and suggestions he generously gave have educated me beyond the work of this cap stone, and will assist me immensely throughout my career in the maple sugaring industry.

Thanks are also owed to Professor Robert McAleese for his assistance and revision of the forest management plan which was prepared for this project. I am also grateful to Professors Janet Mihuc and Celia Evans for their guidance throughout my cap stone experience. Lastly, I would like to thank Julia Hoogasian for her assistance in gathering financial information seen in the business plan of this cap stone. If it were not for the combined guidance and support of these people this project would not have been possible and I give my thanks and gratitude to each of these individuals.

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**Introduction:**

Maple syrup production is an extremely important aspect of the Northeastern American economy, generating around 132 million dollars in revenue annually across its U.S production range (United States Department of Agriculture, 2014). Written accounts of maple syrup production in North America date back 200 years, when the first settlers began using iron pots to boil down maple sap. However, it is believed that natives may have produced syrup long before this time period (University of Vermont, 2015). Originally, most of the thick syrup was cooked down into granular maple sugar, which had a long shelf life and was easily transported. For a time, this was one of the regions' largest exports and was used across the colonies as a household sweetener until the cheaper cane sugar from the Caribbean became widely available. It wasn't until after the Civil War that the preserved or canned maple syrup we all know and love became available. Advances in canning technology made it possible to store the product and easily ship it. Since then, nothing has really changed all that much as far as the product. There have been some major advances in the technology used to produce maple syrup, but the process is still limited due to the extremely labor intensive methods. Even with advances in technology, the total maple production in the U.S has dropped steadily since the 1800's (Farrell & Chabot, 2012). Now, in the mid-twentieth century after many years of a declining market, maple syrup is beginning to become a growing sector in the Northeast economy and offers opportunity for savvy entrepreneurs that are willing to sweat for their money.

For the purpose of this report, statistics will be focusing on the Vermont State maple industry. Currently, the maple syrup industry comprises 4.2% of all agricultural products produced in Vermont; this is made up of 1,320,000 gallons of syrup (42% total U.S production) production in Vermont for the 2014 sugar season (United States Department of Agriculture, 2014). The growth potential in the industry is hardly being realized. It was determined using forest inventory and analysis data, that there are over 300 million potential taps across the northern region (Farrell & Chabot, 2012). Of these trees, only 2.5% are currently being used for maple production. Vermont has the highest utilization rate (taps the most available maples), tapping 2.7% of their trees for syrup production. With current production levels in the United States, over four times the annual production is still being imported from Canada. This means

that there is a large gap that U.S producers could fill if maple production had the opportunity to expand.

Maple syrup can only be produced within the United States and Canada because these are the only regions in which the sugar producing maple trees grow naturally. This creates a cornering of the market for Northeastern maple producers. In the U.S, the state of Vermont leads in syrup production and holds 5.5% of the total global maple syrup production, followed by New York and Maine (United States Department of Agriculture, 2014). The Canadian province of Quebec is the world's leading producer of maple syrup. Annually, they produce around 6,300,000 gallons of product. The maple syrup market has been relatively contained and most of the production is sold within North America. However, aggressive attempts to expand the maple market have been made. Currently, around 10% of the total production is sold as an export, mostly to Asia, which is another market that would be able to absorb product if maple production were to expand (Farrell & Chabot, 2012).

Before investing in the maple industry, one should definitely perform an in-depth assessment of the markets in their regions and generate a business plan so they know exactly the investment needed to get the operation off the ground. Within a typical business proposal one should include identifying features of the sugar maker, location which operations are to take place, description of start-up for the project, and financial information paperwork (Federation of Quebec, 2015). It takes a great deal of capital to set up and operate an industrial scale sugarbush, and currently, maple syrup prices have been dropping. The overall cost of set up may vary greatly, but an average estimate would be around \$4.82 per tap for cost of materials, not including installation (Childs , 2005). Other major costs that need to be considered would be land prices, taxes, equipment costs, energy costs and marketing of the product (retail or wholesale). Also, the obvious question to anyone trying to get into the maple industry is how much can I produce and what are the expected profits, if any. If these questions are not answered, there is a good chance the operation could fail miserably. Maple sugarbushes must grow in a somewhat organic manner to be successful. Reinvestment over a period of years may be needed to grow the sugarbush to the scale a producer desires.

After a business plan is made, then a suitable piece of property is needed that will meet the investors production goals. Not every piece of land will have the needed requirements

to make for an economically plausible sugarbush. The land not only needs the maple trees at a proper density, but also access to the land, building sites for a sugarhouse and sources of water and power (Smith & Gibbs, 1970; Wells, 1982).

The piece of property that I will be analyzing for possible sap production meets all of the land requirements for a successful sugarbush. Currently, I have 6,500 taps and believe it is time to expand after my upcoming graduation from college. There are obviously maple trees on the land, but the questions mentioned above need to be answered in order to properly prepare for expansion. A new business model must be produced in order to make sure an expansion is plausible and that it will be a sound investment.

The forest management plan will allow for statistical analysis of what the forest contains. The minimum components to a forest management plan would be a forest analysis and inventory, stand maps, objectives and goals, a plan to meet these objectives (prescriptions), and invasive/pest considerations. The most important number to be generated by the plan will be the number of taps per acre. This will allow for estimations of costs, yields, and revenues. Not only is it extremely useful for general sugarbush operations, but if done by a certified forester, it will allow you to apply with your state for a tax break. In New York, this is known as the real property tax law or 480-a (Farrell, 2013). When operating a business over hundreds of acres, the savings in taxes can reach 80% in total reduction. In Vermont this tax break may be even higher; up to a 90% reduction when enrolled for at least 20yrs (Vermont Department of Forest, Parks, & Recreation, 2015)

At the conclusion of this project, I will have generated a full management plan for the property. Components which are to be outlined are what is good and bad about the property i.e. forest disease present, possible revenue from timber, where the concentrations of maple trees are and much more. Also, I will have a completed business plan for the expansion that will guide me through the expansion process and estimate what materials, time, money, and production volumes are necessary to make it happen. All said and done, when the time comes, everything will be in place for a productive and well thought out sugarbush.

**Bibliography:**

Citations used in this section may be seen in the bibliography section of the forest management plan (section 2).