12-2011

Report to the Maine Legislature : as Mandated by the 2011 Maine Legislative Resolve: LD109 - 'Resolve, to Study the Promotion and Expansion of the Maine Maple Sugar Industry' that the Commission of Agriculture, Food and Rural Resources Referred in this Resolve as the "Commissioner," Shall Convene a Task Force to Study the Promotion and Expansion of the Maine Maple Sugar Industry

Maine Maple Task Force

Caldwell Jackson
caldwell.jackson@maine.gov

Judy Ballard
judy.ballard@maine.gov

Maine Maple Task Force Study Group

Report to the Maine Legislature
December 2011

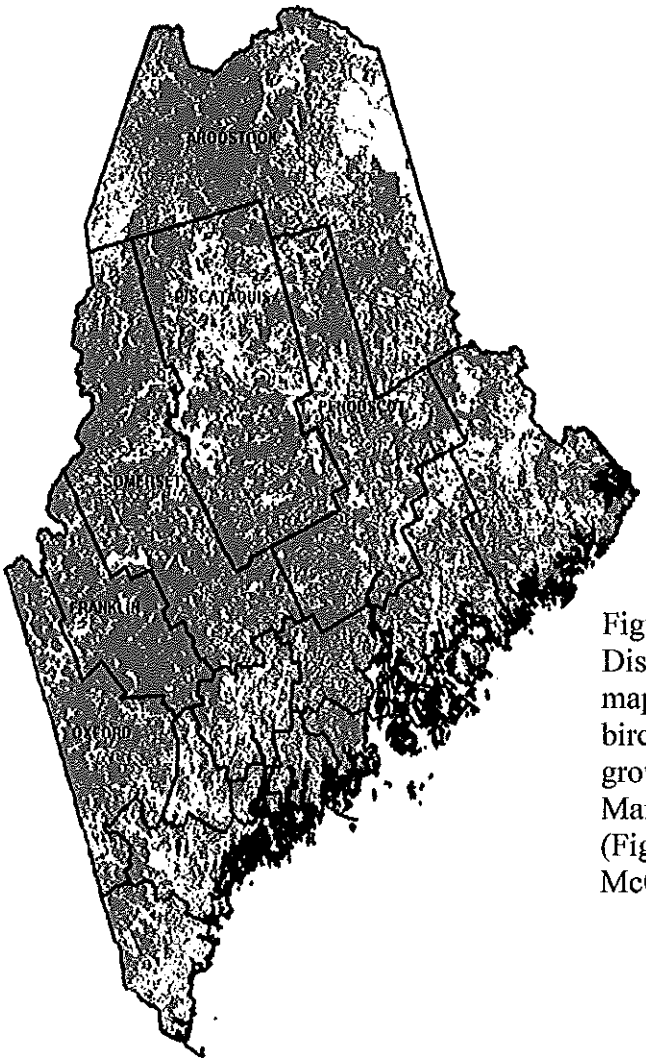


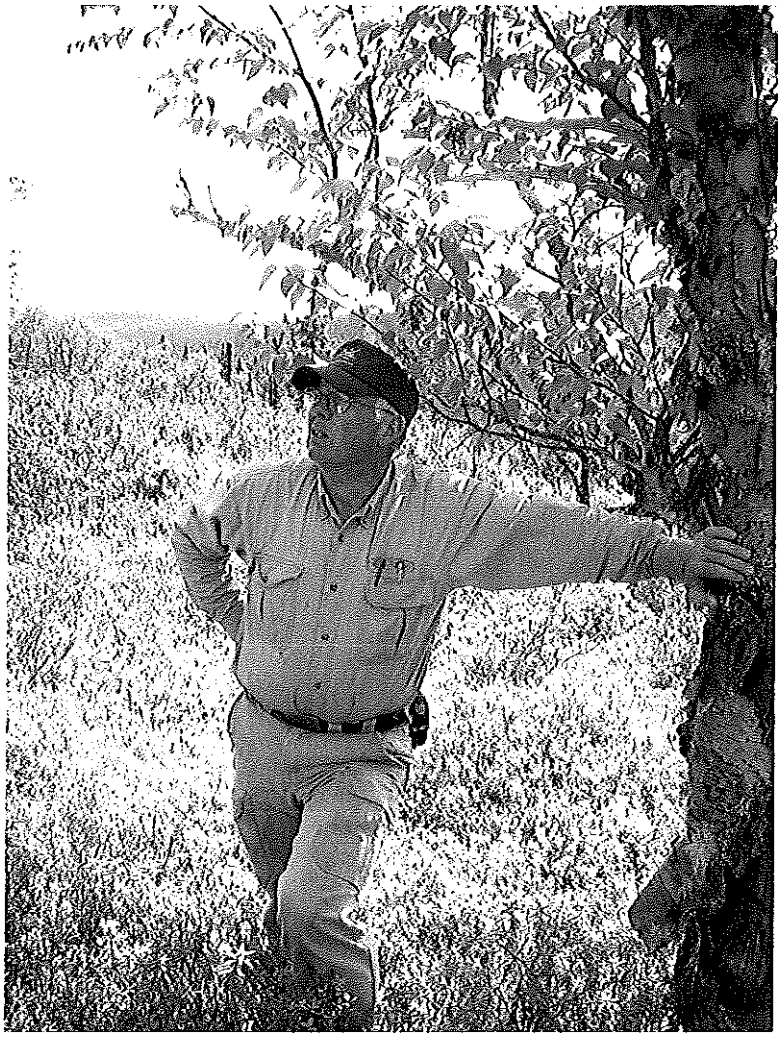
Figure 4 – Distribution of the maple/beech/yellow birch forest type group across Maine's counties (Figure 14 in McCaskill, 2011)

As mandated by the 2011 Maine Legislative Resolve:

LD109 – 'Resolve, to Study the Promotion and Expansion of the Maine Maple Sugar Industry' That the Commissioner of Agriculture, Food and Rural Resources referred in this resolve as the "commissioner," shall convene a task force to study the promotion and expansion of the Maine maple sugar industry.

Dedication

This report is dedicated to Stephen Coleman of Dennistown Plantation, a member of this taskforce, a member of many state advisory boards, a supporter of Maine's forest industries and a supporter of Maine people and government. Steve's honest assessment of the issues facing Mainers will be missed.



STATE OF MAINE
DEPARTMENT OF
AGRICULTURE, FOOD & RURAL RESOURCES
28 STATE HOUSE STATION
AUGUSTA, MAINE
04333-0028

Paul R. LePage
GOVERNOR

Walter E. Whitcomb
COMMISSIONER

December 7, 2011

Senator Roger L. Sherman, Chair
Representative Peter E. Edgecomb, Chair
Members of the Joint Standing Committee on Agriculture, Conservation and Forestry
2 State House Station
Augusta, Maine 04333-0002

Re: L.D. 109; Resolve, To Establish the Commission To Study the Promotion and Expansion of the Maine Maple Sugar Industry

Dear Senator Sherman, Representative Edgecomb and Members,

I am pleased to submit the final report from the task force convened to study the promotion and expansion of the Maine maple sugar industry. The task force has been working diligently over the past six months toward the goals and objectives outlined in the Resolve.

Three key highlights of the overall report emerged as **Potential**, **Job Creation** and **Regulatory Challenges** on **page 1**. Task force recommendations and industry needs are included on **page 2**. Please **see page 3** for a brief summary of each of the eight objectives outlined in the Resolve. An appendix has also been added to the report, please **see A1**.

I would like to thank and commend the Maine Maple Task Force Study Commission for their concise work on this report done within a very short time-frame and with limited resources. I would also like to thank Representative Russell Black for his leadership skills and agreeing to Chair this study commission.

I would like recognize the several entities that worked cooperatively with the task force. Many thanks to the University of Maine Cooperative Extension, Maine Department of Conservation, Maine Forest Service, Maine Potato Board, Wild Blueberry Commission of Maine, Maine Office of Tourism, Representative Strang-Burgess, Burgess Advertising, and special thanks to Biometrician Ken Lausten for his technical work regarding his executive summary and much of the statistical information.

This report reinforces the belief that many of us share; it is in the best interest of the State to grow the maple syrup industry. Increasing production of maple syrup will enhance rural economic development and contribute positively to Maine's quality of life. I will be happy to provide any additional information.

Sincerely,

Walter E. Whitcomb, Commissioner
Department of Agriculture, Food and Rural Resources

cc: Governor Paul R. LePage
Representative Russell Black
Deputy Commissioner Caldwell Jackson

DEERING BLDG., AMHI COMPLEX, 90 BLOSSOM LANE, www.maine.gov/agricultrue
PHONE: (207) 287-3419 FAX: (207) 287-7548

Maine Maple Syrup Study Commission Contact List

Member	Representation	E-Mail	Phone
Representative Russell Black	Chair	russellblack@juno.com	207-645-2990
Kevin Brannen	A producer of maple sugar products in Aroostook County	springbreak@pwless.net	207-757-8818
Joe Suga	A statewide organization of small woodlot owners	SugaCountryProducts@gmail.com	207-923-3355
Eric Ellis	A statewide association of producers of Maine maple sugar products	info@mainemaple.com	207-474-3887
Lyle Merrifield	A regional association of producers of maple sugar products in southern Maine	merfarm@aol.com	207-892-5061
Arnold Luce	An association of producers of maple sugar products in Somerset County	info@mainefarmsbrand.com	207-635-2817
Claude Rodrigue	A producer of maple sugar products with more than 5,000 taps	Arnold2@globetrotter.net	207-668-4110
Roger Jackson	A producer of maple sugar products with 1,000 or fewer taps	Jackson3470@roadrunner.com	207-539-4613
Kathy Hopkins	The University of Maine Cooperative Extension	khopkins@maine.edu	207-474-9622
MaryAnne Kinney	A statewide farming association with a committee actively involved with maple sugar production	maplenut@uninets.net	207-568-7576
Steve Coleman	A statewide organization representing the forest products industry		
Deputy Commissioner Caldwell Jackson	Ex-Officio Maine Department of Agriculture Representative	Caldwell.jackson@maine.gov	207-287-3419
Judy Ballard	Ex-Officio Maine Department of Agriculture Representative	Judy.ballard@maine.gov	207-287-3702

Table of Contents

Maine Maple Task Force Study Group
Report to the Maine Legislature
December 2011

HIGHLIGHTS:

POTENTIAL

On a statewide basis, estimates show that there are 1.3 million qualifying acres currently within Maine. These acres support an estimated 38.5 million sugar and red maple trees that are a 10"+ DBH (Diameter at Breast Height), having a **maximum potential of 41.3 million taps**, and potentially producing **10.3 millions gallons of maple syrup**. Currently, Maine has 1.47 million taps and produces 360,000 gallons in 2011 (14% increase from 2010).

JOB CREATION

Educating the public about the potential of the maple syrup industry as an attractive enterprise requires sharing information about potential supplemental income and part to full-time employment. Current producers in northern Maine have difficulty finding enough labor due to the seasonal nature of the work. As seasonal work, it can be highly paid and ranges between $11.00 and $16.00 hourly. However, travel to the larger sugarbushes located in remote areas is a challenge for many Maine residents and few have experience or skills in sugaring. This results in disinterest by US workers. Skilled Canadian workers experience increasing challenges getting E2 Visas and Work Bonds for temporary workers. The potential for job creation in the maple industry is high. Roughly one six-month, full-time seasonal worker is needed for each 10,000 taps. There are currently about 1.36 million taps in Somerset County and 1.47 million taps in Maine. **This translates to 136 jobs available in Somerset County alone.** If training could be provided and travel managed, the estimated 7.2 million taps in Somerset County alone would **provide an additional 585 jobs**.

REGULATORY CHALLENGES

Maine Bureau of Parks and Lands foresters prepared a parcel of public land that was put out to bid for a sugarbush development. They expected more bids than the three they received. Some issues with developing a sugarbush on public land include:

- The State of Maine owns the land and the lessee cannot restrict public access to the sugarbush
- If the sugarbush operation has to be developed from the ground up, the project in Sandy Bay Township might be too small (~15,000 taps) for the infrastructure investment required
- Smaller parcels in the more southern part of the state closer to existing sugarbushes might create more interest as "satellite" sugarbushes for existing operations.

Developing the process for leasing land from the Maine Bureau of Parks and Lands should be supported and expanded.

- The key question for Bureau of Parks and Lands, since they must raise their own funds from the land they manage, how do they generate the most income from timber harvests and still preserve and enhance maple species for a syrup industry?

- Can harvests occur on BPL lands and still leave enough trees to create a viable sugarbush?

Bill Jarvis, forester for Hilton lands, related that he receives an average of two requests per month for sugarbush leases in the 40-50,000 tap size. Very few trees in the state are of sawlog quality because of the stress and poor soil quality. This makes them good for tapping since their value as sawlogs is negligible. Other forestland managers and Cooperative Extension personnel report similar requests.

The Bureau of Parks and Lands should continue developing bid processes for their lands based on this interest. State agencies should develop a philosophy to support and promote the industry. **Flexibility in state regulations will help minimize initial start-up costs and support expansion.** Sugarbushes need to be exempt from some regulations and need to be considered agricultural not manufacturing or forestry for tax purposes. On a Federal level, syrup operations are seen as manufacturing not agriculture. Land taxes should be assessed at an agricultural rate not commercial rate.

RECOMMENDATIONS:

- A permanent Maine Maple Commission should be established by resolve and continue its analysis of the industry.

- There is great potential in this State that is underutilized. This support in Augusta would help with regulations and inspections. Add a ½ time position in Augusta at the Department of Agriculture, Food and Rural Resources (Market and Production Development) that would work in support of the industry. The person would need to understand both small and large operations.

- Create a Certified Producer Program for maple producers.

- Create a high school or community college curriculum to promote and train workers for the maple industry.

- Need for education to producers, processors, buyers and the public about the value of syrup, the benefits of sugarbushes to both individuals and the public and the process of producing syrup. Connecting landowners with maple resources with potential sugarmakers is a key educational objective. This could best be accomplished by a having a full-time employee with the University of Maine.

- Need for accurate accounting of the value of the maple syrup industry to the Maine economy. An economic study should examine the contributions of maple products, jobs created and supported, contribution to tourism and equipment and

services, should all be examined.

- Need to grow the industry through the Maine Maple Producers Association.

INDUSTRY NEEDS:

- Producer development and education
- Public and consumer education
- More assistance at the Maine Department of Agriculture, Food and Rural Resources
- An industry specialist with the University of Maine Cooperative Extension

OBJECTIVES and SUMMARIES

As outlined in L.D. 109; Resolve, To Establish the Commission To Study the Promotion and Expansion of the Maine Maple Sugar Industry, below are the listed 8 objectives and a short summary.

1. The potential for expanding both the harvesting and processing of maple sap for sugar;

   ***Maine has sufficient trees to expand its maple syrup industry and create jobs in Maine.**

2. Obstacles to expanded production;

   ***Maine faces obstacles to expansion because of education needs, regulations and the need for more marketing**

3. Opportunities for enhancing a Maine maple brand;

   ***Maine has had success in marketing and branding and needs to expand its efforts substantially to develop a "Maine Brand".**

4. The potential for expanding value-added processing and the economic impact of expansion;

   ***Maine produces enough syrup to support a robust value-added product expansion and needs education to support that effort.**

5. The potential for expanding export marketing and the economic impact of expansion;

   ***Maine has the potential to develop an export industry.**

6. Structures or network associations that could increase sustainable production;

   ***The Maine Maple Industry has a number a number of excellent opportunities for partnering with other entities and developing the industry.**

7. Potential competitive or collaborative opportunities with North America's largest producer, Quebec, Canada;

   ***Potential exists to partner or collaborate with Quebec and New Brunswick.**

8. Investments or actions that could be taken by the State that would produce a tangible economic return.

   ***State agencies and flexible regulations will provide support to the expansion of the maple industry in Maine and the jobs it will provide for Maine people.**

As outlined in L.D. 109; Resolve, To Establish the Commission To Study the Promotion and Expansion of the Maine Maple Sugar Industry, below are the listed 8 objectives and the final summary.

Objective 1: The potential for expanding both the harvesting and processing of maple sap for sugar;

The Maple Resource in the State of Maine

"Trees are not the problem."
Bill Jarvis, Forester for Hilton Lands

There is a significant maple resource in the State of Maine. Expanding the maple industry first requires sufficient trees of sufficient size to expand beyond its current production. Maine is the only northeastern state with a forest biometrician on staff. A biometrician helps the state manage its timberlands by conducting inventory analyses, assessing growth and harvest rates, estimating timber values, and creating management models for use in decision-making about the state's forest resources and their interaction with the environment and people.

Ken Laustsen, Biometrician, Maine Forest Service, shared information on Maine timber stands and maple resources. A forest inventory is conducted on Maine owned lands and is updated every 10 years on a rolling annual basis. The inventory is a tool to help determine where sufficient quantities of trees for specific uses are located. There is a sufficient maple resource in the state to support industry expansion. *See Appendix page 2 for the complete report.*

Forest Resources to support Maine's Maple Syrup Industry
Executive Summary - Ken Laustsen

CAVEAT – this mathematical approach assumes that on every qualifying timberland acre, every estimated sugar and red maple tree 10"+ DBH is tapped and the sap is reduced to maple syrup. The estimation process is the absolute maximum production of maple syrup within each county and has not been reduced for any level of current maple syrup production already taking place, at any scale.

The analytical process to estimate various pieces of sugarbush management and maple syrup production required a focused look at Maine's current forest resources (Miles 2011) and it was conducted in a step-wise fashion.

Both sugar maple and red maple are desirable for the production of maple syrup. These species are most commonly found in a species grouping of sugar maple, American beech, and yellow birch. This composition is also categorized as a major forest type group (maple/beech/yellow birch) and it is the most prevalent forest type group in Maine. Within this group, we further refined our analysis to -

- Over/fully stocked – focus on stands with lots of trees to manage
- Sawtimber stand size class – plurality of the trees are 10.0"+ DBH (Diameter at Breast Height, i.e. 4 ½ feet off ground level).
- Sugar and red maple trees that are 10.0"+ DBH (minimum DBH to tap)

- Trees in the 10. – 19.9" DBH range are assigned a single tap per tree, and trees 20.0"+ are assigned two taps per tree.
- Rule of thumb is that 4 taps will produce one gallon of finished maple syrup.
- For Aroostook, Piscataquis, Somerset, Hancock, Penobscot, Washington, Franklin, and Oxford Counties only stands less than three miles from a drivable road were included. For the other eight counties, only stands less than a ½ mile from a drivable road were included.

On a statewide basis, this process estimates that there are 1.3 million qualifying acres currently within Maine (*Appendix Table 4 page 14*). These acres support an estimated 38.5 million sugar and red maple trees that are a 10"+ DBH, having a maximum potential of 41.3 million taps, and potentially producing 10.3 millions gallons of maple syrup (*Appendix Table 5 page 17*). *Note: The Commission feels we need to work with the Department of Conservation to have a more exact idea of the potential statewide on Public Lands.*

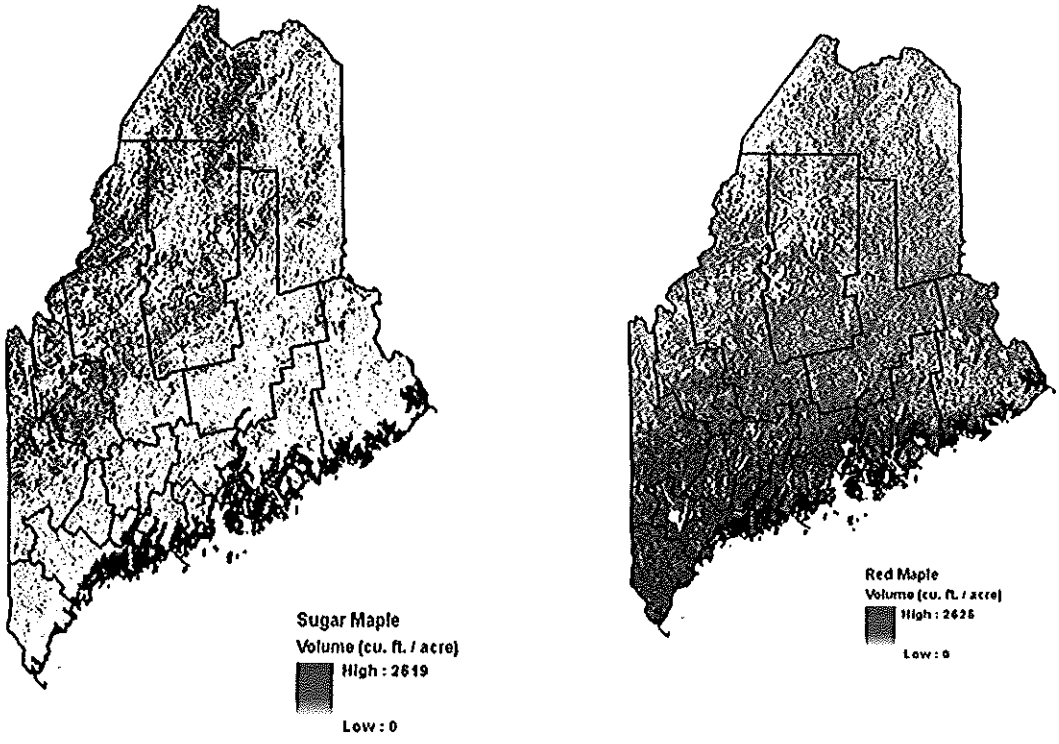
The two tables that follow provide an even more focused estimate for just the five counties (Aroostook, Piscataquis, Somerset, Franklin, and Oxford) representing the most potential for expanded sugarbush management. These qualifying timberland acres (937,734 total and 126,416 publicly owned) and their respective estimates of trees, taps, and maple syrup production follow the same step-wise progression as outlined above.

County		County Total	Average per Qualifying Acre
Aroostook	Estimated Trees	7,727,801	30
	Potential Taps	8,815,662	34
	Potential Gallons	2,203,916	8
Piscataquis	Estimated Trees	5,561,234	30
	Potential Taps	6,023,077	32
	Potential Gallons	1,505,769	8
Somerset	Estimated Trees	6,726,069	40
	Potential Taps	7,212,873	43
	Potential Gallons	1,803,218	11
Franklin	Estimated Trees	4,001,572	30
	Potential Taps	4,126,405	31
	Potential Gallons	1,031,601	8
Oxford	Estimated Trees	6,841,461	35
	Potential Taps	7,036,221	36
	Potential Gallons	1,759,055	9
Selected Counties	Estimated Trees	30,858,135	33
	Potential Taps	33,214,237	35
	Potential Gallons	8,303,559	9

Table 5a – In the maple/beech/yellow birch forest type group, over/fully stocked, and sawtimber stand size class, the estimated sugar and red maple trees (10.0"+ DBH), maximum potential taps, and potential maple syrup production.

County		County Total	Average per Qualifying Acre
Aroostook	Estimated Trees	439,516	30
	Potential Taps	565,092	39
	Potential Gallons	141,273	10
Piscataquis	Estimated Trees	594,884	27
	Potential Taps	594,884	27
	Potential Gallons	148,721	7
Somerset	Estimated Trees	611,757	45
	Potential Taps	611,757	45
	Potential Gallons	152,939	11
Franklin	Estimated Trees	797,655	40
	Potential Taps	817,597	41
	Potential Gallons	204,399	10
Oxford	Estimated Trees	1,833,743	32
	Potential Taps	1,851,225	33
	Potential Gallons	462,806	8
Selected Counties	Estimated Trees	4,277,555	34
	Potential Taps	4,440,555	35
	Potential Gallons	1,110,139	9

Table 5b – ***Publicly owned lands ONLY,*** in the maple/beech/yellow birch forest type group, over/fully stocked, and sawtimber stand size class, the estimated sugar and red maple trees (10.0"+ DBH), maximum potential taps, and potential maple syrup production.



While we have an accurate idea of the size of the tree resource in Maine, the actual potential for expansion is complicated by not knowing specifically the difference between the amount of syrup produced and the amount of syrup and maple products sold in Maine. The amount sold is supplemented by out of state packing companies who may purchase Maine made syrup but also purchase syrup produced in other states and provinces. Knowing the retail numbers for sales through outlets such as Sam's Club, Hannaford, Shaws and L.L. Bean would help define the room for expansion.

Exact figures about production and total sales of maple products in Maine are needed to understand the industry and to use for marketing and publicity. A comprehensive study of the economic impact of the maple syrup industry in Maine has never been done. The Commission suggests that a student in the University of Maine School of Economics conduct a project to determine the economic value of the maple industry for Maine. Contact with Professor George Criner would help to find a student for this project.

The Maple TAP Act is proposed for addition to the 2012 Farm Bill. Maple Tapping Access Program (Maple TAP) Act is legislation that would provide grants to states that create programs to help maple farmers tap into trees that are currently untapped on private lands. The legislation would also provide for the creation of grants to states to support the domestic maple syrup industry through the promotion of related research, education, natural resource sustainability and marketing, as well as the expansion of maple-sugaring activities. This funding could help develop the maple industry in Maine. http://schumer.senate.gov/record.cfm?id=332220 *See Appendix page 20*

SUMMARY – MAINE HAS SUFFICIENT TREES TO EXPAND ITS MAPLE SYRUP INDUSTRY AND CREATE JOBS IN MAINE.

Objective 2: Obstacles to expanded production;

The Maple Study Commission discussed and identified the issues that have an impact on the potential to expand or present an obstacle to expanding the maple syrup industry in the state of Maine. These issues include the following:

Education of public and producers

The public does not understand the maple industry's potential for income generation and job creation. Education for Maine landowners is needed to see the potential for jobs and income from maple syrup production in Maine's woods. Education is also needed for large landowners hesitant to offer leases fearing the possibility of introduced legislation that may give lease owners rights on private property. Foresters who manage private lands report frequent inquiries from out of state producers wanting to develop maple enterprises in Maine. They are not able to expand in their home state. While they may spend significant money in Maine as they develop a new sugarbush enterprise, they may not sell the syrup produced in Maine reducing potential revenue that the state might gain from those sales.
The potential land and trees in Maine as mentioned above suggest potential for a profitable industry to be developed if landowners are educated about the economic potential.

Job Creation and Labor

Educating the public about the potential of the maple syrup industry as an attractive enterprise requires sharing information about potential supplemental income and part to full-time employment. Current producers in northern Maine have difficulty finding enough labor due to the much seasonal nature of the work. As seasonal work, it can be highly paid and ranges between $11.00 and $16.00 an hour. However, travel to the larger sugarbushes located in remote areas is a challenge for many Maine residents and few have experience or skills in sugaring. This results in disinterest by US workers. Skilled Canadian workers experience increasing challenges getting E2 Visas and Work Bonds for temporary workers. The potential for job creation in the maple industry is high. Roughly one six-month, full-time seasonal worker is needed for each 10,000 taps. There are currently about 1.36 million taps in Somerset County and 1.47 million taps in Maine. This translates to 136 jobs available in Somerset County alone. If training could be provided and travel managed, the estimated 7.2 million taps (Table 5a page 8) in Somerset County alone would provide and additional 585 jobs.

The exact size of the current industry is approximated by using the New England Ag Statistics report that is compiled annually and published in June of each year. *See Appendix page 23* The information provided in the NASS maple report is compiled from voluntary reporting. Most maple producing states feel that many producers fail to report their production and Maine ascribes to that conventional wisdom. Ideas discussed by the Commission to enhance reporting to better estimate the size of the current industry include:

- Provide equipment distributors with blank reporting forms that they can hand out with equipment sales to get small-scale producers to self-report production to New England Ag Statistics to ensure a more accurate assessment of Maine's production
- Create better connections between producers and New England Ag Statistics by advertising NASS contact information
- Have a local or regional contact for the small, unlicensed producers to help with reporting

Promotion and Marketing

There is a need to promote the entire industry in the state of Maine including the possibility of connecting with the Passamaquoddy tribe as they consider entering the maple industry[1]. Branding Maine Maple Syrup, rather than simply trying to out-produce other states, is critically important. Education is needed to stress the importance of a "Maine Brand" and increase demand for a Maine produced product. While Maine has a high density of large volume producers and that attract bulk purchasers, selling syrup at bulk prices returns the lowest profit to producers. Selling value-added products at retail prices returns the highest level of profit to producers and needs encouragement. The industry needs to explore marketing strategies and explore the option of working with another industry, such as Maine Wild Blueberries (Wild Maine blueberry pancakes and Maine maple syrup). Marketing other maple products-maple candy, maple-coated nuts should also be explored and promoted. The industry needs to make and utilize short and long term strategic plans for marketing. There is a need to access and

[1] Passamaquoddy Tribe Expands Horizons Beyond Casinos. Waterville Morning Sentinel. http://www.onlinesentinel.com/news/passamaquoddy-tribe-expands-horizons-beyond-casinos_2011-11-13.html

collaborate with the Maine Department of Agriculture, Maine Office of Tourism, and the University of Maine Cooperative Extension offices for support and education in promotion and marketing.

Production and Licensing

The Department of Agriculture lists 332 licensed producers in the State of Maine. The Maine Maple Producers Association has around 120 members whose goal is to produce excellent syrup for sale and share their industry knowledge with the public.

The Maple Study Commission supports licensing of producers and supports an educational program for the public and small producers that will create a closer and friendlier relationship with the Department of Agriculture, Quality Assurance and Regulations. The process of licensing provides protection for the producers and public and supports producers in producing a high quality product. The goal is to keep small producers in business and support their expansion if they desire. Currently, a $2 licensing fee applies to production of less than 15 gallons. The commission feels that this fee should be increased. The commission also feels that the license number should appear on the label. The committee recommends that further study be done on licensing syrup sold in the state of Maine. The industry needs greater production in order to expand to new markets including export markets and should focus on increasing the production volume and the value of Maine maple syrup. This production increase should be coupled with market increase to avoid having surpluses that would impact prices negatively.

General Issues

- The industry would benefit by having a grant writer to pursue funding opportunities. Grant money is available, but it takes time and work to apply for it and maple producers and collaborators are currently busy managing multiple tasks and unable to take advantage of grant opportunities.

- Flexibility about LURC rules would make it easier to build sugarhouses on leased land. Currently, a rule exists that prevent erecting a building within 1000 feet of a public road. This is a hindrance for someone trying to build an accessible sugarhouse.

- MOFGA organic certification has benefits and pays a slight premium for organically certified syrup.

SUMMARY – MAINE FACES OBSTACLES TO EXPANSION BECAUSE OF EDUCATION NEEDS, REGULATIONS AND NEED FOR MARKETING.

Objective 3: Opportunities for enhancing a Maine maple brand

The Commission discussed ways that Maine maple syrup could develop a unique, identifiable brand. Meetings with the Maine Potato Board and the Wild Blueberry Commission of Maine showed how other industries achieved their size and accessed development funding.

- Maine Potato Board – producers pay a set amount of money per amount sold to the Potato Board. This would need to be done voluntarily for the maple association. The

Potato Board was set up with the involvement of state government and legislature.

- Maine Lobster council consists of people in a variety of positions within the industry supported by licensing fees.

- Legislation establishing internationally accepted uniform maple grades is being promoted throughout the United States and Canada. Should these new grade names be adopted universally, the committee feels that it could be an advantage to producers in Maine and would offer an opportunity to market the "Maine Brand" as a way of distinguishing Maine made syrup. For example, a Maine grading kit could strengthen the Maine brand.

In research conducted for the Maine Maple Producers Association by Burgess Advertising in 2002, they found that of 400 consumers in the northeast, 35% were users of pure maple syrup. Most of the consumers used it for breakfast. Additionally, 75% of Mainers would think about buying it as a gift. A most important finding was that 100% pure was important to consumers and price was not a huge factor. Only 9% of consumers said a pure Maine seal mattered to them. Based on these research results, a recommended branding campaign would stress to consumers that syrup is 100% pure and that it can be distinguished by its taste and traditional Maine quality. Expanding Maine Maple Sunday to a Maine Maple Weekend or Maine Maple Week and developing a spokesperson to represent the industry was also recommended. Connecting "Maine" and "Maple" as terms would help develop the brand. Maine Maple Sunday ™ has been very helpful in getting the word about maple out to the public.

Producers need education about pricing and marketing to avoid selling for the lowest possible price, hurting others and themselves. Education about the true cost of making syrup should lead to better pricing of products and highlight the true quality and value of Maine Maple syrup. Education about quality will enhance the Maine Maple industry overall. Since the State no longer inspects all barrels because of costs, it is critical for producers to be educated about and produce the highest quality product that will be easy to promote and brand as Maine Maple Syrup.

Other promotional branding opportunities include: Maine Maple Sunday, Open Farm Day, Cabane à Sucre (Quebec style sugarbush/restaurant), Farm-to-School, and a promotional trailer at fairs and the Big E. Using social media to remind people that they can purchase syrup after Maine Maple Sunday would also help with promotion, branding and sales.

Marketing should include the health benefits of real maple syrup versus other sweeteners. Sharing the results of recent research on maple's health benefits will help consumers unfamiliar with maple syrup choose maple over other sweeteners. The International Maple Syrup Institute is working on educational material that they hope to have ready in a few months and will share with producer organizations. The nutritional value of real maple syrup should be shared with the public and this could enhance consumption of maple syrup and support expansion across the country and internationally.

SUMMARY – MAINE HAS HAD SUCCESS IN MARKETING AND BRANDING AND NEEDS TO EXPAND ITS EFFORTS SUBSTANTIALLY TO DEVELOP A "MAINE BRAND".

Objective 4: The potential for expanding value-added processing and the economic impact of expansion;

To expand the industry in Maine and secure the greatest retail profit for producers, value-added product production should be explored. Currently, large amounts of these products are packaged out of state and shipped to stores in Maine. Maine producers could be selling Maine produced products instead. Education is necessary for producers to learn production practices that will ensure a consistent high quality product. Specialty producers should develop products and markets in tandem for a smooth transition to the specialty market.

Education is needed for the public about consuming maple specialty products. The industry needs professional marketing help and education to build internal and external market awareness. Establishing a maple spokesperson for the industry could develop wider usage of maple by the public.

Farm-to-School programs where Maine products are brought into schools by farm representatives will educate children and staff about value-added products and the maple syrup industry as would having a available to schools. Schools in Hinckley and Aroostook County are starting maple programs in their schools and this should be encouraged.

SUMMARY – MAINE PRODUCES ENOUGH SYRUP TO SUPPORT A ROBUST VALUE-ADDED PRODUCT EXPANSION AND NEEDS EDUCATION TO SUPPORT THAT EFFORT.

Objective 5: The potential for expanding export marketing and the economic impact of expansion;

In 2006, graduate student, Veronique Theriault, in the University of Maine School of Economics studied the economic impact of maple expansion for her Master's thesis. Her work showed that the maple prices in Quebec, the largest producer in the world, have a negligible impact on Maine syrup prices. *See Appendix page 31.* She also found that maple syrup demand is inelastic and that consumers view it as a luxury commodity. Her models also showed that the production quota system in place in Quebec benefits Maine producers by keeping syrup prices stable and relatively high. The models also showed that an increase in Maine production might lead to a slight decrease in price but through increased sales, an increase in total revenue. Statistics and producer experience in the past three years support these results. Price increases in the last three years have not really affected sales in Maine. Higher prices have led to people purchasing fewer but larger containers of syrup.

Adequate labor potentially limits expansion and export. Maple work requires seasonal labor for up to six months. The largest production areas requiring the most seasonal labor in Maine are in the northern parts of Somerset and Franklin County. Access to the large sugarbushes presents a travel problem because of distance for US citizens. Canadian workers actually live closer to the major production areas and are having increasing difficulty securing Federal H2A or H2B work visas.

SUMMARY – MAINE HAS THE POTENTIAL TO DEVELOP AN EXPORT INDUSTRY.

Objective 6: Structures or network associations that could increase sustainable production;

Structures and associations that could help increase sustainable production include the following. The Maine Maple Producers Association should make an effort to communicate effectively with these organizations.

- Maine Department of Agriculture, Food and Resources
- University of Maine Cooperative Extension
- Maine Food Producers Alliance
- Maine Maple Association
- Maine Office of Tourism
- Burgess Advertising - marketing
- Co-marketing with other Maine food products such as honey, blueberry, potato, lobster
- Cooperative work with groups like SWOAM and Maine Forest Products Council
- "Buy Local" movements
- Local restaurants and specialty menus
- Certification Programs that would add value to the product and keep standards high
    - Organic certification
    - Develop a Maine certified producer program that would help distinguish Maine syrup once the grades become uniform internationally.
- Networking opportunities:
    - Maine InnKeepers Association
    - Maine Restaurant & Lodging
    - Maine Grocers Association
    - Contact the New England version of these groups such as New England InnKeepers, etc.

SUMMARY – THE MAINE MAPLE INDUSTRY HAS A NUMBER OF EXCELLENT OPPORTUNITIES FOR PARTNERING WITH OTHER ENTITIES AND DEVELOPING THE INDUSTRY.

Objective 7: Potential competitive or collaborative opportunities with North America's largest producer, Quebec, Canada;

Although the business structure differs in Maine and Quebec, there is a long history of collaboration between the state and province because of the skills and access to equipment in Quebec. Since Quebec also has a supply of experienced labor, Maine is somewhat dependent on Quebec although the price in Maine is not dependent on Quebec but supported by Quebec prices. The potential of competitive and collaborative opportunities is an issue that requires more time to understand and develop. The potential for collaboration includes New Brunswick.

SUMMARY – POTENTIAL EXISTS TO PARTNER OR COLLABORATE WITH QUEBEC AND NEW BRUNSWICK.

Objective 8: Investments or actions that could be taken by the State that would produce a tangible economic return.

Maine Bureau of Parks and Lands foresters prepared a parcel of public land that was put out to bid for a sugarbush development. They expected more bids than the three they received. Some issues with developing a sugarbush on public land include:

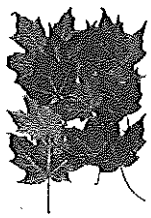
- The State of Maine owns the land and the lessee cannot restrict public access to the sugarbush.
- If the sugarbush operation has to be developed from the ground up, the project in Sandy Bay Township might be too small (~15,000 taps) for the infrastructure investment required.
- Smaller parcels in the more southern part of the state closer to existing sugarbushes might create more interest as "satellite" sugarbushes for existing operations.

Developing the process for leasing land from the Maine Bureau of Parks and Lands should be supported expanded. There is a key question for Bureau of Parks and Lands. Since they must raise their own funds from the land they manage, how do they generate the most income from timber harvests and still preserve and enhance maple species for a syrup industry? Can harvests occur on BPL lands and still leave enough trees to create a viable sugarbush?

Bill Jarvis, forester for Hilton lands, related that he receives an average of two requests per month for sugarbush leases in the 40-50,000 tap size. Very few trees in the state are of sawlog quality because of the stress and poor soil quality. This makes them good for tapping since their value as sawlogs is negligible. Other forestland managers and Cooperative Extension personnel report similar requests. The Bureau of Parks and Lands should continue developing bid processes for their lands based on this interest.

State agencies should develop a philosophy to support and promote the industry. Flexibility in state regulations will help minimize initial start-up costs and support expansion. Sugarbushes need to be exempt from some regulations and need to be considered agricultural not manufacturing or forestry for tax purposes. On a Federal level, syrup operations are seen as manufacturing not agriculture. Land taxes should be assessed at an agricultural rate not commercial rate.

SUMMARY - STATE AGENCIES AND FLEXIBLE REGULATIONS WILL PROVIDE SUPPORT TO THE EXPANSION OF THE MAPLE INDUSTRY IN MAINE AND THE JOBS IT WILL PROVIDE FOR MAINE PEOPLE.



Amend the resolve by striking out the title and substituting the following:

'Resolve, To Study the Promotion and Expansion of the Maine Maple Sugar Industry'

Amend the resolve by striking out everything after the title and before the summary and inserting the following:

'**Emergency preamble. Whereas,** acts and resolves of the Legislature do not become effective until 90 days after adjournment unless enacted as emergencies; and

Whereas, strengthening the branding of Maine maple sugar products has the potential to create value-added jobs in the natural resources sector and expand export markets for Maine maple sugar products; and

Whereas, convening a task force of maple sugar producers and other stakeholders is a first step in advancing this goal; and

Whereas, the end of the maple sugar production season is an optimal time to bring stakeholders together; and

Whereas, in the judgment of the Legislature, these facts create an emergency within the meaning of the Constitution of Maine and require the following legislation as immediately necessary for the preservation of the public peace, health and safety; now, therefore, be it

Sec. 1 Task force. Resolved: That the Commissioner of Agriculture, Food and Rural Resources, referred to in this resolve as "the commissioner," shall convene a task force to study the promotion and expansion of the Maine maple sugar industry. The commissioner shall invite representatives from each of the following to participate in the task force:

1. A statewide association of producers of Maine maple sugar products;
2. A regional association of producers of maple sugar products in southern Maine;
3. An association of producers of maple sugar products in Somerset County;
4. A producer of maple sugar products in Aroostook County;
5. A producer of maple sugar products with more than 5,000 taps;
6. A producer of maple sugar products with 1,000 or fewer taps;
7. A statewide organization of small woodlot owners;
8. A statewide organization representing the forest products industry;
9. The University of Maine Cooperative Extension; and

10. A statewide farming association with a committee actively involved with maple sugar production; and be it further

Sec. 2 Chair; convening of initial meeting. Resolved: That the commissioner shall designate a person to serve as chair of the task force and shall convene the initial meeting no later than
30 days following the effective date of this resolve; and be it further

Sec. 3 Duties. Resolved: That the task force shall examine with reference to the Maine maple sugar industry:

1. The potential for expanding both the harvesting and processing of maple sap for sugar;

2. Obstacles to expanded production;

3. Opportunities for enhancing a Maine maple brand;

4. The potential for expanding value-added processing and the economic impact of expansion;

5. The potential for expanding export marketing and the economic impact of expansion;

6. Structures or network associations that could increase sustainable production;

7. Potential competitive or collaborative opportunities with North America's largest producer, Quebec, Canada; and

8. Investments or actions that could be taken by the State that would produce a tangible economic return.

In conducting its examination, the task force shall review models that have been successfully employed to promote other Maine food product industries, including marine products and agricultural products such as potatoes and blueberries; and be it further

Sec. 4 Meetings. Resolved: That the chair, in consultation with the commissioner, shall schedule meetings of the task force as necessary to complete the task force's assigned duties. The commissioner shall notify members of the Joint Standing Committee on Agriculture, Conservation and Forestry and other Legislators with a known interest in the maple sugar industry of all meetings of the task force; and be it further

Sec. 5 Staffing and funding. Resolved: That the Department of Agriculture, Food and Rural Resources shall provide staff support to the task force from existing resources. The commissioner may use contributions of money, services and supplies accepted under existing authority to support the work of the task force; and be it further

Sec. 6 Agency cooperation. Resolved: That the commissioner, the Commissioner of Conservation, the Commissioner of Economic and Community Development and the Chief Executive Officer of the Finance Authority of Maine shall each designate a representative from their respective agencies to serve as a resource to the task force, respond to information requests and attend task force meetings upon request; and be it further

Sec. 7 Final report. Resolved: That, no later than December 7, 2011, the commissioner shall submit a report that includes the findings and recommendations of the task force, including suggested legislation to implement the recommendations, for presentation to Joint Standing Committee on Agriculture, Conservation and Forestry; and be it further

Sec. 8 Authority to submit legislation. Resolved: That the Joint Standing Committee on Agriculture, Conservation and Forestry may submit a bill pertaining to the Maine maple sugar industry to the Second Regular Session of the 125th Legislature.

Emergency clause. In view of the emergency cited in the preamble, this legislation takes effect when approved.'

SUMMARY

This amendment replaces the resolve. It replaces the proposal for a legislative study with a task force convened by the Commissioner of Agriculture, Food and Rural Resources. It directs the Department of Agriculture, Food and Rural Resources to provide staff support to the task force.

It directs the Commissioner of Agriculture, Food and Rural Resources to submit a final report to the Joint Standing Committee on Agriculture, Conservation and Forestry no later than December 7, 2011. It authorizes the Joint Standing Committee on Agriculture, Conservation and Forestry to submit legislation to the Second Regular Session of the 125th Legislature.

APPENDIX

Maine Maple Syrup Study Commission Contact List

Member	Representation	E-Mail	Phone
Representative Russell Black	Chair	russellblack@juno.com	207-645-2990
Kevin Brannen	A producer of maple sugar products in Aroostook County	springbreak@pwless.net	207-757-8818
Joe Suga	A statewide organization of small woodlot owners	SugaCountryProducts@gmail.com	207-923-3355
Eric Ellis	A statewide association of producers of Maine maple sugar products	info@mainemaple.com	207-474-3887
Lyle Merrifield	A regional association of producers of maple sugar products in southern Maine	merfarm@aol.com	207-892-5061
Arnold Luce	An association of producers of maple sugar products in Somerset County	info@mainefarmsbrand.com	207-635-2817
Claude Rodrigue	A producer of maple sugar products with more than 5,000 taps	Arnold2@globetrotter.net	207-668-4110
Roger Jackson	A producer of maple sugar products with 1,000 or fewer taps	Jackson3470@roadrunner.com	207-539-4613
Kathy Hopkins	The University of Maine Cooperative Extension	khopkins@maine.edu	207-474-9622
MaryAnne Kinney	A statewide farming association with a committee actively involved with maple sugar production	maplenut@uninets.net	207-568-7576
Steve Coleman	A statewide organization representing the forest products industry		
Deputy Commissioner Caldwell Jackson	Ex-Officio Maine Department of Agriculture Representative	Caldwell.jackson@maine.gov	207-287-3419
Judy Ballard	Ex-Officio Maine Department of Agriculture Representative	Judy.ballard@maine.gov	207-287-3702

Availability of Maine's Forest Resources
To support the Maple Syrup Industry

Maine forests, which cover 89 percent of the state, can be categorized by several different attributes including specific species, composition, forest type, stocking, stand size, and diameter ranges.

For maple syrup production there are two species of interest, the first and foremost is Sugar Maple (*Acer saccharum* Marsh) which also has the common names of rock maple and hard maple. Figure 1 provides a composite depiction of this species statewide concentration (map) and the average volume per acre (bar graph) in each Maine County.

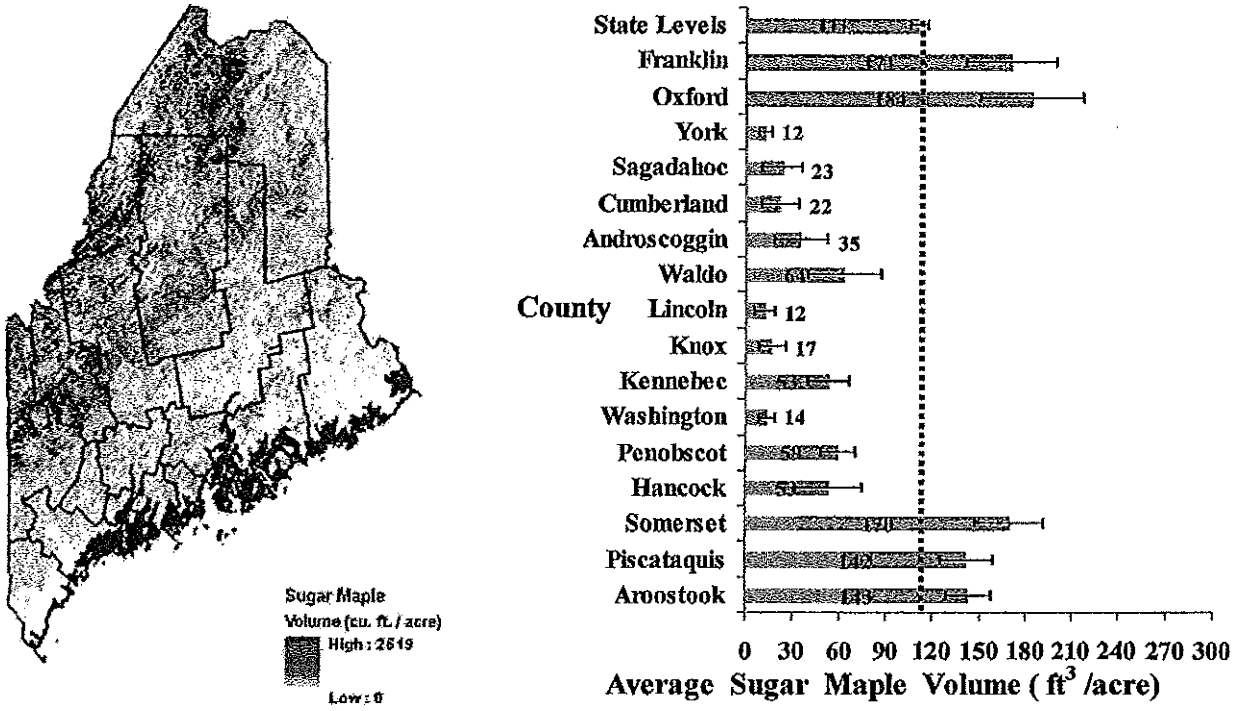


Figure 1 - Concentrations (as depicted on map) and average sugar maple volume (ft^3/acre) by county (Figure 29 in McCaskill, 2011).

Five counties (Aroostook, Piscataquis, Somerset, Oxford, and Franklin), all large in total area, exceed the average state level of sugar maple volume per acre (111 cubic feet per acre or 1.3 cords). This is our first indication of which counties might receive a more focused look at potential syrup production opportunities.

The second species is Red Maple (*Acer rubrum* L.), which also has several other common names including soft maple, white maple, and swamp maple. Figure 2 provides a composite depiction of this species statewide concentration (map) and the average volume per acre (bar graph) in each Maine County.

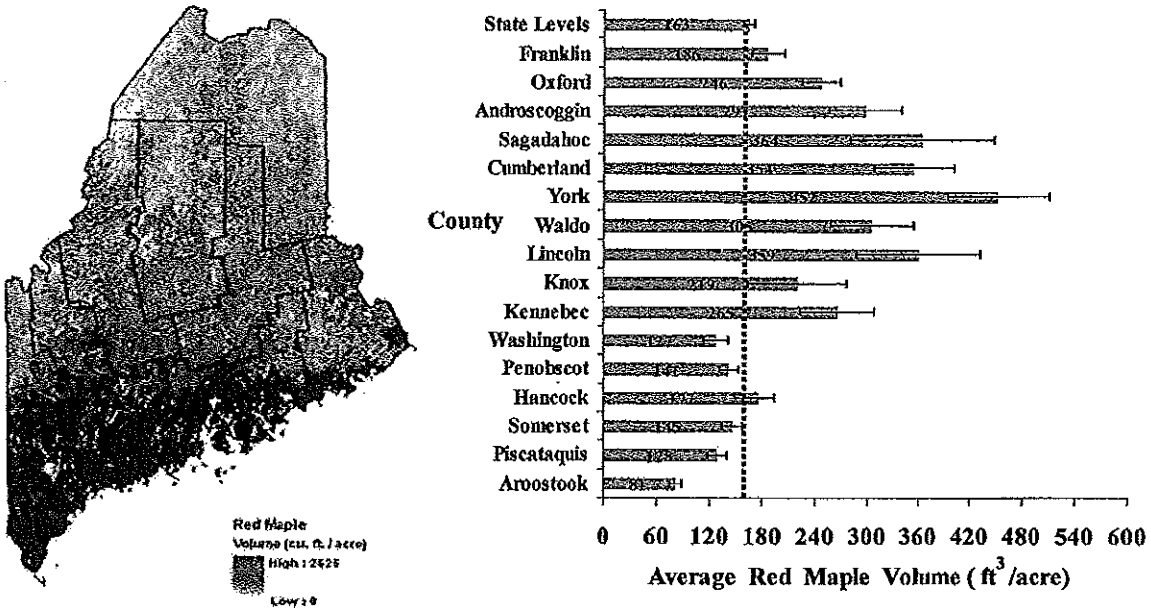


Figure 2 - Concentrations (as depicted on map) and average red maple volume (ft^3/acre) by county (Figure 31 in McCaskill, 2011).

All but five of the sixteen counties exceed the average state level of red maple volume (163 cubic feet per acre or 1.9 cords). Red maple is much more of a generalist, and is more pervasive and accommodating in occupying various site conditions. Interestingly, nine counties that were below average in sugar maple volume are above average in red maple volume, and two counties (Franklin and Oxford) are above average for both species.

In examining both Figures 1 and 2 there is a general southwest to northeast gradient that separates the highest concentrations of these two species. By combining the respective bar graphs of Figures 2 and 3 into a new graph, we can now display the combined average volume of both sugar and red maple in each county (Figure 3).

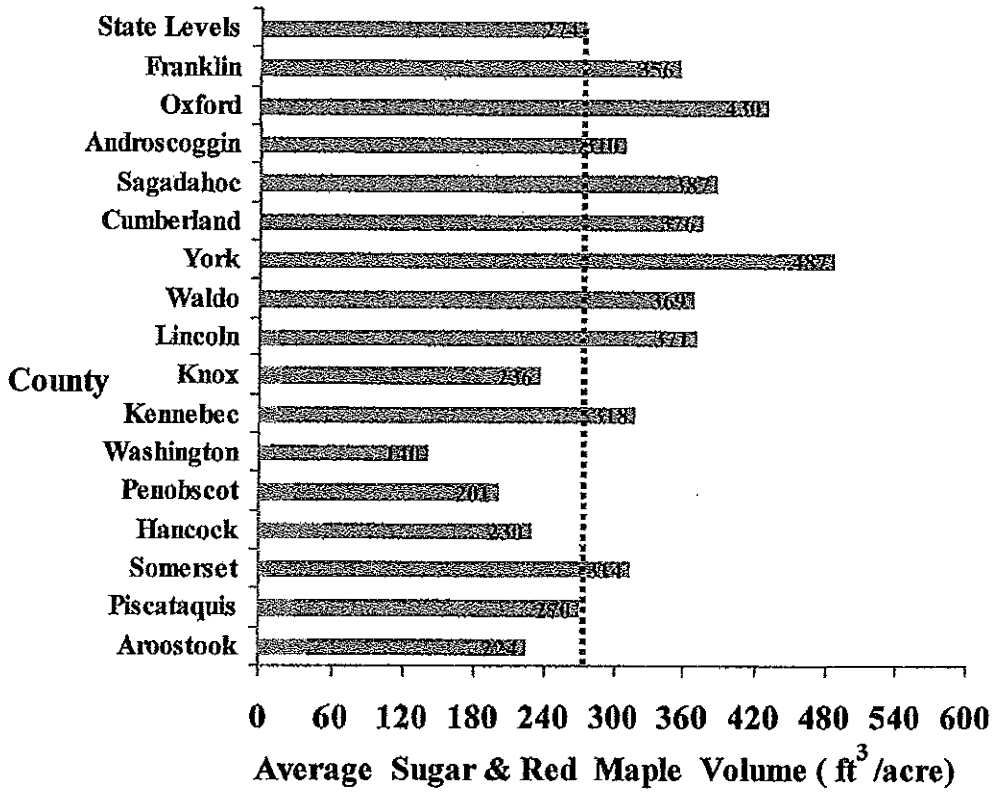


Figure 3 - Average sugar and red maple volume (ft^3/acre) by county (McCaskill, 2011).

In this combined depiction, ten counties have more than the state level average volume of 274 cubic feet (3.2 cords) per acre, but the six counties that are below the state level average contain 61 percent of the state's timberland acreage. In essence, a generalized species distribution map and average volume per acre may not provide the best characterization for estimating potential syrup production, because the above data includes sugar and red maple trees that are too small to be tapped.

Another way to consider potential production is in the broader terms of forest stand composition. Typically, three tolerant hardwood species of Sugar Maple, American Beech, and Yellow Birch are commonly found together. This species aggregation is also a major forest type group labeled maple/beech/yellow birch and it currently is the most prevalent forest type in Maine, encompassing 7.1 million acres of timberland (Miles, 2011) and distributed as depicted in Figure 4.

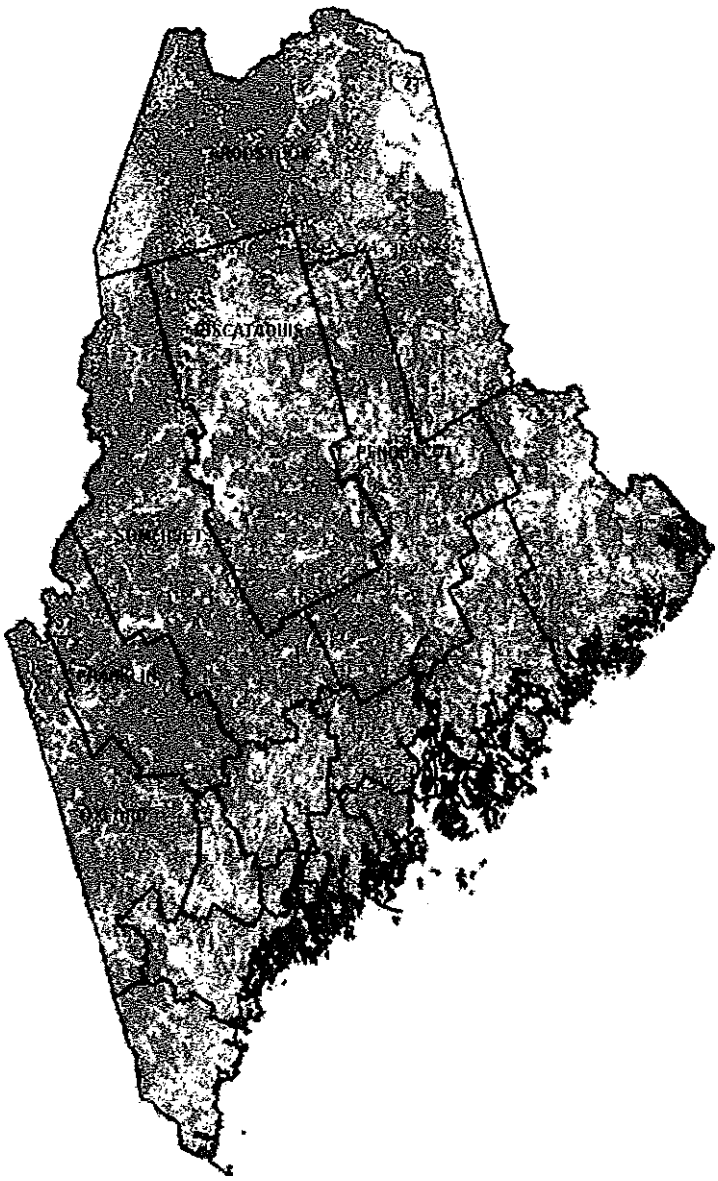


Figure 4 – Distribution of the maple/beech/yellow birch forest type group across Maine's counties (Figure 14 in McCaskill, 2011)

This forest type group represents the plurality of forest type acres in Androscoggin, Cumberland, Franklin, Kennebec, Knox, Lincoln, Oxford, Piscataquis, Sagadahoc, Somerset, Waldo, and York counties. The USDA Forest Service Northern Research Station Forest Inventory and Analysis Unit (FIA) further delineates this major type group into four potential forest types that are still more species and site specific –

- Sugar maple/beech/yellow birch
- Black cherry
- Hard maple/basswood
- Red maple/upland

	Forest Type			
County	Sugar maple/ beech/ yellow birch	Hard maple/ basswood	Red maple/ uplands	County Total
Aroostook	1,334,066	49,394	79,504	1,462,964
Piscataquis	927,836	13,921	49,309	991,066
Somerset	934,903	32,622	109,989	1,077,514
Hancock	211,004	11,068	29,095	251,167
Penobscot	567,654	11,006	80,966	659,626
Washington	290,200	11,718	86,714	388,632
Kennebec	155,703	-	15,659	171,362
Knox	45,950	-	18,759	64,709
Lincoln	64,483	-	5,368	69,851
Waldo	177,091	18,170	45,377	240,638
Androscoggin	76,639	11,207	4,811	92,657
Cumberland	123,505	-	4,432	127,937
Sagadahoc	27,499	-	13,366	40,865
York	82,190	4,305	42,594	129,089
Franklin	477,895	23,987	33,780	535,662
Oxford	728,612	19,276	74,183	822,071
Forest Type Total	6,225,230	206,674	693,906	7,125,810

Table 1 – In the maple/beech/yellow birch major forest type group, distribution of timberland acres, by forest types and county, Maine, 2010; Miles, 2011, EVALIDator download, 10/25/2011.

Of the three specific forest types, the sugar maple/beech/yellow birch forest type contains 87 percent of the group's acreage. But again the caution is raised that not all timberland acres in the maple/beech/yellow birch forest type group contain suitable stocking (numbers of trees) and/or sufficient trees that are large enough (stand size class) to tap for syrup production.

A separate function of the Maine Maple Syrup Study Commission was to also examine publicly owned lands for their independent potential for sugarbush management. Publicly owned lands as used here include timberland acres owned and managed by a combined three levels of government (federal, state, and local). Based on the 2006 – 2010 FIA plot samples across Maine, publicly owned lands have 378,204 timberland acres in the maple/beech/yellow birch major forest type group, and the specific forest type of maple/beech/yellow birch represents 91 percent of the total (Table 1a). The plot sample indicates that 13 of the 16 counties have a public ownership in this major forest type group. But again five counties (Aroostook, Piscataquis, Somerset, Franklin, and Oxford) contain 81

percent of the publicly owned acres in this major forest type group and have enough substantial acreage to investigate further (Table 1a highlights).

	Forest Type			
County	Sugar maple/ beech/ yellow birch	Hard maple/ basswood	Red maple/ uplands	County Total
Aroostook	46,597	-	14,920	61,518
Piscataquis	64,069	-	-	64,069
Somerset	34,495	6,777	-	41,272
Hancock	21,950	-	-	21,950
Penobscot	18,275	-	4,300	22,575
Washington	6,929	-	-	6,929
Kennebec	6,100	-	-	6,100
Knox	6,100	-	-	6,100
Lincoln	4,114	-	-	4,114
Waldo	-	-	-	-
Androscoggin	-	-	-	-
Cumberland	1,498	-	-	1,498
Sagadahoc	3,692	-	-	3,692
York	-	-	-	-
Franklin	39,785	-	5,936	45,721
Oxford	91,023	-	1,643	92,666
Forest Type Total	344,627	6,777	26,799	378,204

The five highlighted counties total 305,246 acres

Table 1a – ONLY publicly owned lands in the maple/beech/yellow birch major forest type group, distribution of timberland acres, by forest types and county, Maine, 2010; Miles, 2011, EVALIDator download, 10/25/2011.

FIA data assigns categories that can be used to build a matrix that combines stocking classes (overstocked, fully stocked, moderately stocked, poorly stocked, and nonstocked) and stand size classes (sawtimber, poletimber, and sapling) to better focus on a desired combination of stand conditions. This report chose to focus on just two stocking classes (overstocked and fully stocked) and the sawtimber stand size class as the cross-tabulation of categories providing the most desirable indication of potential acres for sugarbush management across the state. In aggregate this analysis estimates that 1.3 million acres of timberland meet the desired conditions (Table 2). Fully stocked represents 96 percent of the potential acres and Aroostook County contains 20 percent of the potential acres.

County	Growing Stock Stocking Class	Stand-Size Class Large Diameter (Sawtimber)	Total Potential in County
Aroostook	Overstocked	9,948	
	Full Stocked	249,775	259,723
Piscataquis	Overstocked	5,533	
	Full Stocked	190,943	196,476
Somerset	Overstocked	11,096	
	Full Stocked	161,973	173,069
Hancock	Overstocked	-	
	Full Stocked	21,875	21,875
Penobscot	Overstocked	-	
	Full Stocked	57,880	57,880
Washington	Overstocked	1,515	
	Full Stocked	27,826	29,341
Kennebec	Overstocked	-	
	Full Stocked	39,695	39,695
Knox	Overstocked	1,525	
	Full Stocked	16,657	18,182
Lincoln	Overstocked	2,492	
	Full Stocked	19,096	21,588
Waldo	Overstocked	-	
	Full Stocked	34,625	34,625
Androscoggin	Overstocked	-	
	Full Stocked	7,841	7,841
Cumberland	Overstocked	5,930	
	Full Stocked	33,151	39,081
Sagadahoc	Overstocked	-	
	Full Stocked	8,317	8,317
York	Overstocked	-	
	Full Stocked	42,666	42,666
Franklin	Overstocked	-	
	Full Stocked	131,948	131,948
Oxford	Overstocked	11,620	
	Full Stocked	181,514	193,134
Statewide	Overstocked	49,659	
	Full Stocked	1,225,782	1,275,441

Table 2 – Potential sugarbush management acres in the maple/beech/yellow birch forest type group, displaying only the preferred interaction of stocking and stand size classes, by county, Maine, 2010; Miles, 2011, EVALIDator download 10/25/2011.

The analysis in Table 2 can be taken one step further, by selecting a limited subset of desirable counties, those being Aroostook, Piscataquis, Somerset, Franklin, and Oxford, which were previously identified in Figure 1 as having above average sugar maple volume per acre.

County	Growing Stock Stocking Class	Stand-Size Class Large Diameter (Sawtimber)	Total Potential in County
Aroostook	Overstocked	9,948	
	Full Stocked	249,775	259,723
Piscataquis	Overstocked	5,533	
	Full Stocked	190,943	196,476
Somerset	Overstocked	11,096	
	Full Stocked	161,973	173,069
Franklin	Overstocked	-	
	Full Stocked	131,948	131,948
Oxford	Overstocked	11,620	
	Full Stocked	181,514	193,134
Selected Counties Total	Overstocked	38,197	
	Full Stocked	916,153	954,350

Table 2a – Potential sugarbush management acres in the maple/beech/yellow birch forest type group, displaying only the preferred interaction of stocking and stand size classes, for five selected counties, Maine, 2010; Miles, 2011, EVALIDator download, 10/25/2011.

The 954,350 total acres in Table 2a retains 75% of the statewide acres and more likely represent a preferred area of focus for evaluating potential and expanded maple syrup production.

County	Growing Stock Stocking Class	Stand-Size Class Large Diameter (Sawtimber)	Total Potential in County
Aroostook	Overstocked	4,157	
	Full Stocked	10,433	14,590
Piscataquis	Overstocked	-	
	Full Stocked	21,805	21,805
Somerset	Overstocked	-	
	Full Stocked	13,554	13,554
Franklin	Overstocked	-	
	Full Stocked	19,882	19,882
Oxford	Overstocked	-	
	Full Stocked	56,587	56,587
Selected Counties Total	Overstocked	4,157	
	Full Stocked	122,261	126,418

Table 2b – ONLY publicly owned land, potential sugarbush management acres in the maple/beech/yellow birch forest type group, displaying only the preferred interaction of stocking and stand size classes, for five selected counties, Maine, 2010; Miles, 2011, EVALIDator download, 10/25/2011.

Publicly owned and managed acres in the preferred stocking and stand size class combination have an estimate of 126,418 acres, which is 13% of Table 2a's total (Table 2b). This is a slightly disproportionate representation; since statewide, publicly owned acres only represent about 5 percent of the state's total timberland.

The FIA data files also allow for the estimation of numbers of trees by species for a 2" DBH Class, i.e. 5.0 – 7.9" DBH. The next analysis provides an even more specific estimation. The data was filtered to select plot data that was classified as maple/beech/yellow birch forest type group, either over or fully stocked, and in the sawtimber stand size class, essentially the acres identified in Tables 2, 2a, and 2b. All tallied live sugar and red maple trees were expanded to represent the complete stocking (number of trees) on the preferred potential acreage, and placed into 2" DBH classes. According to current guidelines; one tap is assigned to trees in the 10.0 to 19.9" DBH range and two taps per tree are assigned to trees equal to or greater than 20.0" DBH (Hopkins, 2007). These assignments as noted obtain a potential and maximum number of taps within each county. Another common rule of thumb is that it takes four taps to produce a gallon of finished maple syrup; and this was applied to obtain an estimate of potential maple syrup production for each county.

CAVEAT – this mathematical approach assumes that every estimated sugar and red maple tree 10" DBH and larger is tapped and the sap is reduced to maple syrup, the estimation process is the absolute maximum production of maple syrup within each county and has not been reduced for any level of current maple syrup production already taking place, at any scale (Table 3).

County	Total	Average per Qualifying Acre
Aroostook Estimated Trees	7,727,805	30
Aroostook Potential Taps	8,815,669	34
Aroostook Potential Gallons	2,203,917	8
Piscataquis Estimated Trees	5,960,784	30
Piscataquis Potential Taps	6,422,627	33
Piscataquis Potential Gallons	1,605,657	8
Somerset Estimated Trees	7,143,413	41
Somerset Potential Taps	7,630,216	44
Somerset Potential Gallons	1,907,554	11
Hancock Estimated Trees	724,934	33
Hancock Potential Taps	771,930	35
Hancock Potential Gallons	192,983	9
Penobscot Estimated Trees	1,312,553	23
Penobscot Potential Taps	1,414,752	24
Penobscot Potential Gallons	353,688	6
Washington Estimated Trees	675,598	23
Washington Potential Taps	766,768	26
Washington Potential Gallons	191,692	7
Kennebec Estimated Trees	723,339	18
Kennebec Potential Taps	758,695	19
Kennebec Potential Gallons	189,674	5
Knox Estimated Trees	330,391	18
Knox Potential Taps	330,391	18
Knox Potential Gallons	82,598	5
Lincoln Estimated Trees	466,521	22
Lincoln Potential Taps	466,521	22
Lincoln Potential Gallons	116,630	5
Waldo Estimated Trees	976,282	28
Waldo Potential Taps	994,637	29
Waldo Potential Gallons	248,659	7
Androscoggin Estimated Trees	431,195	55
Androscoggin Potential Taps	450,563	57
Androscoggin Potential Gallons	112,641	14
Cumberland Estimated Trees	723,096	19
Cumberland Potential Taps	755,942	19
Cumberland Potential Gallons	188,986	5
Sagadahoc Estimated Trees	133,994	16
Sagadahoc Potential Taps	133,994	16
Sagadahoc Potential Gallons	33,499	4
York Estimated Trees	1,268,211	30
York Potential Taps	1,389,676	33
York Potential Gallons	347,419	8
Franklin Estimated Trees	4,001,571	30
Franklin Potential Taps	4,126,403	31
Franklin Potential Gallons	1,031,601	8
Oxford Estimated Trees	6,841,461	35
Oxford Potential Taps	7,036,221	36
Oxford Potential Gallons	1,759,055	9
All 16 Counties Estimated Trees	39,441,152	31
All 16 Counties Potential Taps	42,265,010	33
All 16 Counties Potential Gallons	10,566,253	8

Table 3 - In the maple/beech/yellow birch forest type group, over/fully stocked, sawtimber stand size class, number of sugar and red maple trees (10.0"+ DBH), potential and maximum taps recommended, and potential maple syrup production (4 taps=1 gallon), by county, Maine, 2010; Miles, 2011, EVALIDator download, 10/25/2011

Again, by selecting certain counties a better focus on the plurality of potential maple syrup production can be obtained. By selecting just Aroostook, Piscataquis, Somerset, Franklin, and Oxford counties; 80% of the estimated sugar and red maple trees available for tapping on the qualified acres, 81% of the potential taps, and 81% of the potential maple syrup production are retained (Table 3a).

County	Total	Average per Qualifying Acre
Aroostook Estimated Trees	7,727,805	30
Aroostook Potential Taps	8,815,669	34
Aroostook Potential Gallons	2,203,917	8
Piscataquis Estimated Trees	5,960,784	30
Piscataquis Potential Taps	6,422,627	33
Piscataquis Potential Gallons	1,605,657	8
Somerset Estimated Trees	7,143,413	41
Somerset Potential Taps	7,630,216	44
Somerset Potential Gallons	1,907,554	11
Franklin Estimated Trees	4,001,571	30
Franklin Potential Taps	4,126,403	31
Franklin Potential Gallons	1,031,601	8
Oxford Estimated Trees	6,841,461	35
Oxford Potential Taps	7,036,221	36
Oxford Potential Gallons	1,759,055	9
5 Select Counties Estimated Trees	31,675,034	33
5 Select Counties Potential Taps	34,031,135	36
5 Select Counties Potential Gallons	8,507,784	9

Table 3a – In the maple/beech/yellow birch forest type group, over/fully stocked, and sawtimber stand size class, the estimated sugar and red maple trees (10.0"+ DBH), potential and maximum taps recommended, and potential maple syrup production (4 taps=1 gallon), for five select counties, Maine, 2010; Miles, 2011, EVALIDator Download, 10/25/2011

The additional column outlining averages per qualifying acre also supports the selection of these five counties. Compared to the statewide averages in Table 3, these five selected counties average two more qualified trees per acre, three more taps per acre because on average the trees are in larger sizes (20"+ DBH), and that then provides the potential capability to produce an average of one more gallon of syrup per acre.

The finer scale estimation on just publicly owned lands finds that the same five select counties have similar overall per acre averages to Table 3a, with an overall average of 34 sugar and red maple tress to tap, most of which are less than a 20" DBH, with a potential maximum of 36 taps, and an average maple syrup production of 9 gallons (Table 3b). In individually comparing the five counties and their averages, publicly owned acres in Aroostook, Somerset and Franklin Counties are better than the Table 3a averages, whereas Piscataquis and Oxford are below their respective averages in Table 3a.

County	Total	Average per Qualifying Acre
Aroostook Estimated Trees	439,516	30
Aroostook Potential Taps	565,092	39
Aroostook Potential Gallons	141,273	10
Piscataquis Estimated Trees	594,885	27
Piscataquis Potential Taps	594,885	27
Piscataquis Potential Gallons	148,721	7
Somerset Estimated Trees	611,758	45
Somerset Potential Taps	611,758	45
Somerset Potential Gallons	152,940	11
Franklin Estimated Trees	797,653	40
Franklin Potential Taps	817,595	41
Franklin Potential Gallons	204,399	10
Oxford Estimated Trees	1,833,746	32
Oxford Potential Taps	1,851,228	33
Oxford Potential Gallons	462,807	8
5 Select Counties Estimated Trees	4,277,558	34
5 Select Counties Potential Taps	4,440,557	35
5 Select Counties Potential Gallons	1,110,139	9

Table 3b – ONLY publicly owned land in the maple/beech/yellow birch forest type group, over/fully stocked, and sawtimber stand size class, the estimated sugar and red maple trees (10.0"+ DBH), potential and maximum taps recommended, and potential maple syrup production (4 taps=1 gallon), for five select counties, Maine, 2010; Miles, 2011, EVALIDator Download, 10/25/2011

In aggregate, publicly owned acreage within the potential sugarbush management criteria has an estimated 4.3 million trees of sufficient size to tap, with a potential maximum of 4.4 million taps, and the potential maple syrup production of 1.1 million gallons (Table 3b).

The final analysis for fine tuning estimates of trees, taps, and syrup production uses another variable within the FIA data to further focus this report on the more accessible and prime acreage for establishing a sugarbush. The variable of interest is "Horizontal Distance to Improved Road" and this represents the straight line distance from the FIA plot center to the nearest improved road (which is a road of any width that is maintained as evidenced by pavement, gravel, grading, ditching or other improvements).

There are nine groupings -

1. 100 feet or less
2. 101 feet to 300 feet
3. 301 feet to 500 feet
4. 501 feet to 1,000 feet
5. 1,001 feet to < ½ mile
6. ½ mile to < 1 mile
7. 1 mile to < 3 miles
8. 3 miles to < 5 miles
9. 5 miles or greater

For the eight largest counties (Aroostook, Piscataquis, Somerset, Hancock, Penobscot, Washington, Franklin, and Oxford) qualifying acres were accepted up through group #7 (1 mile to < 3 miles), reflecting the larger ownerships within these counties and their more unorganized town structure. For the eight smallest counties (Kennebec, Knox, Lincoln, Waldo, Androscoggin, Cumberland, Sagadahoc, and York) qualifying acres were accepted only up through group #5 (1,001 feet to < ½ mile), again reflecting the higher probability of more diverse parcels and management in family forest type ownerships and the prevalence of an organized town structure. The initial statewide total of 1.28 million qualifying acres (Table 2) is reduced to 1.26 million qualifying acres, that are within 3 miles of a drivable road for all 16 counties, a very minor 1.3% decrease (Table 4). This step provides a strong anecdotal indication of the level of road access throughout Maine. Applying the second restriction of distance (< ½ mile) to the specified eight counties further reduces the qualifying acreage to what now can be considered as 1.25 million prime acres. This loss of an additional ~6,000 acres, is another strong indication, that in the more organized parts of Maine, very few maple/beech/yellow birch stands are more than ½ mile from an improved road (Table 4).

		Stocking & Stand-Size Class		
		Overstocked & Large Diameter (Sawtimber)	Fully Stocked & Large Diameter (Sawtimber)	County Total
County				
Aroostook	Total Prime	9,948	249,775	259,723
Piscataquis	Total Prime	5,533	179,877	185,410
Somerset	Total Prime	11,096	156,425	167,521
Hancock	Total Prime	-	21,875	21,875
Penobscot	Total Prime	-	57,879	57,879
Washington	Total Prime	1,515	27,826	29,341
Kennebec	Total Prime	-	39,695	39,695
Knox	Total Prime	1,525	16,657	18,182
Lincoln	Total Prime	2,492	19,096	21,588
Waldo	Total Prime	-	28,525	28,525
Androscoggin	Total Prime	7,841	-	7,841
Cumberland	Total Prime	5,930	33,152	39,082
Sagadahoc	Total Prime	-	8,317	8,317
York	Total Prime	-	42,667	42,667
Franklin	Total Prime	-	131,947	131,947
Oxford	Total Prime	11,620	181,513	193,133
	Less Than 100 feet	11,831	39,916	51,747
	101 to 300 feet	5,672	68,147	73,819
All 16 Counties	301 - 500 feet	5,548	95,544	101,092
	501 - 1,000 feet	15,790	190,887	206,677
	1,001 - 1/2 mile	7,058	428,142	435,200
(Only the 8 Large Counties)	1/2 mile to 1 mile	11,601	227,797	239,398
	1 mile to 3 miles	-	144,793	144,793
	Total Prime	57,500	1,195,226	1,252,726

1,275,441	Total Qualifying Acres
1,258,826	Total Qualifying acres within 3 miles of a drivable road for all 16 counties
1,252,726	Total Qualifying Acres with the 2 separate Maximum distances as noted

Table 4 – Prime sugarbush acres in the maple/beech/yellow birch forest type group, over/fully stocked, sawtimber stand size class, located less than 3 miles from a drivable road for eight counties (Aroostook, Piscataquis, Somerset, Hancock, Penobscot, Washington, Franklin, and Oxford) or less than ½ mile from a drivable road for the eight remaining counties, Maine, 2010; Miles, 2011, EVALIDator download, 10/19/2011.

From this statewide accounting provided in Table 4, a finer focus can again be directed to the plurality of acres that are contained in just five select counties (Aroostook, Piscataquis, Somerset, Franklin, and Oxford). These counties have an estimated 937,734 prime qualifying acres of maple/beech/yellow birch that are within 3 miles of a drivable road, a 74 percent retention from the Table 4 estimate of 1.26 million acres (Tables 4 and 4a).

		Stocking & Stand-Size Class		
County		Overstocked & Large Diameter (Sawtimber)	Fully Stocked & Large Diameter (Sawtimber)	County Total
Aroostook	Total Prime	9,948	249,775	259,723
Piscataquis	Total Prime	5,533	179,877	185,410
Somerset	Total Prime	11,096	156,425	167,521
Franklin	Total Prime	-	131,947	131,947
Oxford	Total Prime	11,620	181,513	193,133
Combined 5 Counties	Less Than 100 feet	-	10,997	10,997
	101 to 300 feet	4,157	45,501	49,658
	301 - 500 feet	5,548	75,291	80,839
	501 - 1,000 feet	11,358	95,600	106,958
	1,001 - 1/2 mile	5,533	361,058	366,591
	1/2 mile to 1 mile	11,601	173,623	185,224
	1 mile to 3 miles	-	137,467	137,467
	Total Prime	38,197	899,537	937,734

Table 4a – Prime sugarbush acres in the maple/beech/yellow birch forest type group, over/fully stocked, sawtimber stand size class, located less than 3 miles from a drivable road for five select counties, Maine, 2010; Miles, 2011, EVALIDator download, 10/19/2011.

With the addition of a maximum distance, being less than three miles from a drivable road, the publicly owned acres that are considered prime for sugarbush management are estimated to be 126,416 acres in the selected five counties, essentially identical to the acres identified in Table 2b (Table 4b).

County		Stocking & Stand-Size Class: Overstocked & Large Diameter (Sawtimber)	Fully Stocked & Large Diameter (Sawtimber)	County Total
Aroostook	Total Prime	4,157	10,433	14,590
Piscataquis	Total Prime	-	21,805	21,805
Somerset	Total Prime	-	13,554	13,554
Franklin	Total Prime	-	19,881	19,881
Oxford	Total Prime	-	56,586	56,586
Combined 5 Counties	Less Than 100 feet	-	-	-
	101 to 300 feet	4,157	-	4,157
	301 - 500 feet	-	-	-
	501 - 1,000 feet	-	12,592	12,592
	1,001 - 1/2 mile	-	55,559	55,559
	1/2 mile to 1 mile	-	22,598	22,598
	1 mile to 3 miles	-	31,510	31,510
	Total Prime	4,157	122,259	126,416

Table 4b – ONLY publicly owned land, the prime sugarbush acres in the maple/beech/yellow birch forest type group, over/fully stocked, sawtimber stand size class, located less than 3 miles from a drivable road for five select counties, Maine, 2010; Miles, 2011, EVALIDator download, 10/19/2011.

The same process for estimating the number of sugar and red maple trees (10.0"+ DBH), the potential recommended maximum taps, and potential maple syrup production described earlier for the development of Tables 3, 3a, and 3b can be rerun using the more refined and desired prime qualifying acres estimated and described within Tables 4, 4a, and 4b.

Table 5 provides those specific estimates for each of Maine's sixteen counties, and this focus on prime acreage across the state, totals 38.5 million sugar and red maple trees that are 10"+ DBH, providing a maximum of 41.3 million taps, and potentially producing 10.3 million gallons of finished maple syrup. It is encouraging that the overall statewide average per acre estimates in Table 5 are the same as shown in Table 3, providing a reassuring indication that maple stands nearest to drivable roads have equivalent stocking in terms of sugarbush management to those stands that are more remote from a drivable road.

County		County Total	Average per Qualifying Acre
Aroostook	Estimated Trees	7,727,801	30
	Potential Taps	8,815,662	34
	Potential Gallons	2,203,916	8
Piscataquis	Estimated Trees	6,561,234	30
	Potential Taps	6,023,077	32
	Potential Gallons	1,505,769	8
Somerset	Estimated Trees	6,726,069	40
	Potential Taps	7,212,873	43
	Potential Gallons	1,803,218	11
Hancock	Estimated Trees	724,933	33
	Potential Taps	771,929	35
	Potential Gallons	192,982	9
Penobscot	Estimated Trees	1,312,550	23
	Potential Taps	1,414,749	24
	Potential Gallons	353,687	6
Washington	Estimated Trees	675,598	23
	Potential Taps	766,768	26
	Potential Gallons	191,692	7
Kennebec	Estimated Trees	723,339	18
	Potential Taps	758,695	19
	Potential Gallons	189,674	5
Knox	Estimated Trees	330,391	18
	Potential Taps	330,391	18
	Potential Gallons	82,598	5
Lincoln	Estimated Trees	466,521	22
	Potential Taps	466,521	22
	Potential Gallons	116,630	5
Waldo	Estimated Trees	866,150	30
	Potential Taps	866,150	30
Androscoggin	Estimated Trees	431,195	55
	Potential Taps	450,563	57
	Potential Gallons	112,641	14
Cumberland	Estimated Trees	723,097	19
	Potential Taps	755,943	19
	Potential Gallons	188,986	5
Sagadahoc	Estimated Trees	133,994	16
	Potential Taps	133,994	16
	Potential Gallons	33,499	4
York	Estimated Trees	1,268,210	30
	Potential Taps	1,389,676	33
	Potential Gallons	347,419	8
Franklin	Estimated Trees	4,001,572	30
	Potential Taps	4,126,405	31
	Potential Gallons	1,031,601	8
Oxford	Estimated Trees	6,841,461	35
	Potential Taps	7,036,221	36
	Potential Gallons	1,759,055	9
Statewide	Estimated Trees	38,514,109	31
	Potential Taps	41,319,612	33
	Potential Gallons	10,329,903	8

Table 5 – In the maple/beech/yellow birch forest type group, over/fully stocked, and sawtimber stand size class; the estimated sugar and red maple trees (10."+ DBH), maximum potential taps, and potential maple syrup production for the prime qualifying sugarbush acres identified in Table 4, by county, Maine, 2010; Miles, 2011, EVALIDator download, 11/2/2011.

If the focus is again restricted to the five counties with the most prime acres, the estimated number of sugar and red maple trees available for tapping is 30.9 million, which can support 33.2 million taps, and potentially produce 8.3 million gallons of maple syrup (Table 5a).

County		County Total	Average per Qualifying Acre
Aroostook	Estimated Trees	7,727,801	30
	Potential Taps	8,815,662	34
	Potential Gallons	2,203,916	8
Piscataquis	Estimated Trees	5,561,234	30
	Potential Taps	6,023,077	32
	Potential Gallons	1,505,769	8
Somerset	Estimated Trees	6,726,069	40
	Potential Taps	7,212,873	43
	Potential Gallons	1,803,218	11
Franklin	Estimated Trees	4,001,572	30
	Potential Taps	4,126,405	31
	Potential Gallons	1,031,601	8
Oxford	Estimated Trees	6,841,461	35
	Potential Taps	7,036,221	36
	Potential Gallons	1,759,055	9
Selected Counties	Estimated Trees	30,858,135	33
	Potential Taps	33,214,237	35
	Potential Gallons	8,303,559	9

Table 5a – In the maple/beech/yellow birch forest type group, over/fully stocked, and sawtimber stand size class, the estimated sugar and red maple trees (10.0"+ DBH), maximum potential taps, and potential maple syrup production for the prime qualifying acres identified in Table 4a, for five selected counties, Maine, 2010; Miles, 2011, EVALIDator download, 11/2/2011.

For the defined prime sugarbush acreage, these five counties, in Table 5a, retain 80 percent of the desired sugar and red maple trees, 80 percent of the maximum taps, and 80 percent of the potential maple syrup production. Even more encouraging is that on the average acre, these five counties have two more trees, resulting in 2 more potential taps, and an additional gallon of potential maple syrup production over the statewide averages noted in Table 5.

Finally a separate estimate of potential on publicly owned lands that are considered prime and within 3 miles of a drivable road is provided in Table 5b, and is essentially identical to Table 3b.

County		County Total	Average per Qualifying Acre
Aroostook	Estimated Trees	439,516	30
	Potential Taps	565,092	39
	Potential Gallons	141,273	10
Piscataquis	Estimated Trees	594,884	27
	Potential Taps	594,884	27
	Potential Gallons	148,721	7
Somerset	Estimated Trees	611,757	45
	Potential Taps	611,757	45
	Potential Gallons	152,939	11
Franklin	Estimated Trees	797,655	40
	Potential Taps	817,597	41
	Potential Gallons	204,399	10
Oxford	Estimated Trees	1,833,743	32
	Potential Taps	1,851,225	33
	Potential Gallons	462,806	8
Selected Counties	Estimated Trees	4,277,555	34
	Potential Taps	4,440,555	35
	Potential Gallons	1,110,139	9

Table 5b – ONLY publicly owned land in the maple/beech/yellow birch forest type group, over/fully stocked, and sawtimber stand size class, the estimated sugar and red maple trees (10.0"+ DBH), maximum potential taps, and potential maple syrup production for the prime qualifying acres identified in Table 4b, for five selected counties, Maine, 2010; Miles, 2011, EVALIDator download, 11/2/2011.

Overall the criteria delineating prime publicly owned lands as summarized in Table 5b compare favorably, on a per acre basis, with the overall five county estimates in Table 5a. These prime sugarbush areas that are publicly owned contain 14 percent of the desired sizes in sugar and red maple trees, 13 percent of the potential taps, and 13 percent of the potential maple syrup production identified in Table 5a.

CITATIONS

Hopkins, Kathy. Revised 2007. ***"How to tap maple trees and make maple syrup"***. Bulletin #7036. University of Maine Cooperative Extension. Available from Somerset County Cooperative Extension Office, 7 County Drive, Skowhegan, ME 04976-4209 or 1.800.287.1495.

McCaskill, George L.; McWilliams, William H.; Barnett, Charles J.; Butler, Brett J.; Hatfield, Mark A.; Kurtz, Cassandra M.; Morin, Randall S.; Moser, W. Keith; Perry, Charles H.; Woodall, Christopher W. 2011. ***"Maine's forests 2008"***. Resource Bulletin NRS-48. Newtown Square, PA: U.S. Department of Agriculture, Forest Service, Northern Research Station. 62 p, [DVD included].

Miles, Patrick D. 2011 (Various Download dates). Forest Inventory EVALIDator web-application version 4.01.01. St. Paul, MN: U.S. Department of Agriculture, Forest Service, Northern Research Station. [Available online: http://apps.fs.fed.us/Evalidator/tmattribute.jsp]

Maple TAP Act
http://schumer.senate.gov/record.cfm?id=332220

FOR IMMEDIATE RELEASE: March 30, 2011

SCHUMER INTRODUCES NEW MAPLE TAP ACT: BILL WOULD HELP REALIZE UPSTATE NY MAPLE INDUSTRY'S ENORMOUS, UNTAPPED POTENTIAL BY PROMOTING NEW TREE TAPS, EXPANDING RESEARCH, DEVELOPMENT AND MARKETING OF MAPLE SYRUP PRODUCTION

Schumer Will Push To Include Legislation In 2012 Farm Bill – Proposal Would Provide Grants For Private Tapping, Research and Education In Syrup Production, Natural Resource Sustainability, and Marketing

NY Currently Taps Less Than 1% Of Its Nearly 300 Million Maple Trees, Leaving $82 Million In Potential Revenues Stuck In Trees Across The State – New Region-By Region Schumer Report Reveals New Tap, Revenue Potentials Throughout Upstate

Schumer: This Bill Would Help Pour Jobs Into New York And Would Tap A Key Natural Resource

Today, U.S. Senator Charles E. Schumer announced that he is introducing a new Maple Tapping Access Program (Maple TAP) Act, legislation that would provide grants to states that create programs to help maple farmers tap into trees that are currently untapped on private lands. The legislation would also provide for the creation of grants to states to support the domestic maple syrup industry through the promotion of related research, education, natural resource sustainability and marketing, as well as the expansion of maple-sugaring activities. Schumer today announced that he is going to push to include the Maple TAP Act in the upcoming farm bill. New York currently taps less than 1 percent of the state's nearly 300 million maple trees, forcing the U.S. to import four times as much maple syrup as it produces. The state has not been able to take full advantage of its maple resources in part because nearly three quarters of the tappable maple trees are on privately owned land, potentially leaving over $80 million worth of maple sap inside the trees. Despite having 200 million fewer maple trees than New York, the Canadian province of Quebec taps roughly a third of its maple trees and is able to put out over 40 million more maple taps every year, cementing its standing as the world's leader in syrup production. Encouraging private land owners to open their lands to maple tapping, while also encouraging market promotion, research and education surrounding the industry, would create jobs in New York and provide an economic boost to the region.

"Upstate New York stands ready and able to unleash the untapped potential of its maple syrup industry," Schumer said. "Despite reports that tapping season has begun, hundreds of millions of untapped trees are just sitting there, full of a lucrative natural resource that could propel New York to the top of the maple industry, as well as provide a huge economic boost and new jobs to maple-rich Upstate. That's why I'm introducing the new and improved Maple TAP Act, which provides grants to help open up private lands for tapping, and for research and education in syrup production, further bolstering our efforts to make sure that New York's agricultural market can reap the benefits of its natural resources. I am going to push as hard as I possibly can to make this legislation a part of the upcoming farm bill so that jobs can begin pouring into Upstate as soon as possible. They say money doesn't grow on trees, but with millions of trees waiting to be tapped, there may be bucketfuls of dollars inside them. The Maple TAP Act will help hardworking farmers across the state get their hands on a valuable product that will help them grow and expand their business."

Across New York State, there are over 280 million maple trees with syrup-tapping potential, with local upstate farmers relying on it as a lucrative pocket in the agriculture industry. However, despite the staggering number of trees across the state, less than one percent of them are currently used for maple tapping, forcing the U.S. to import four times as much maple syrup as it produces. By contrast, Canada currently produces 85% of the world's maple product, tapping into over one-third of their maple trees. New York has about 1.8 million taps, while Quebec, the epicenter of the Canadian maple industry, has nearly 40 million.

Despite having nearly 200 million more trees than Quebec, New York State still imports syrup from Canada because internal production is too low to meet the market demands. This is due largely to the fact that 68% of all potentially tappable maple trees in New York State are located on privately-owned land. Allowing states to offer grants to landowners who will open up their land to maple tapping will increase the number of available trees, expand maple syrup production, and pump much needed farm revenues back into local economies. The grants provided under the new Maple TAP Act could also be used to promote maple industry research and education at institutions like Cornell, and for market promotion for maple syrup and maple products. Congressman Peter Welch (D-VT), is introducing companion legislation in the House of Representatives.

According to a Cornell University analysis of U.S. Forest Service data, New York currently has approximately 280,000,000 potential maple taps, while actual taps are at 1,860,000.

The Maple TAP Act has the potential to increase maple taps and boost revenue to farmers all across the state – here is how the numbers break down:

- In the Capital Region, there are 34.8 million potential new taps, and the TAP Act could help bring in an additional $10 million in revenue per year.
- In the Western New York, there are 21.1 million potential new taps, and the TAP Act could help bring in an additional $6 million in revenue per year.
- In the Rochester-Finger Lakes Region, there are 11.6 million potential new taps, and the TAP Act could help bring in an additional $3 million in revenue per year.
- In the Southern Tier, there are an amazing 70.8 million potential new taps, and the TAP Act could help bring in an additional $22 million in revenue per year.
- In Central New York, there are 45.5 million potential new taps, and the TAP Act could help bring in an additional $13 million in revenue per year.
- In the Hudson Valley, there are 26.8 million potential new taps, and the TAP Act could help bring in an additional $8.7 million in revenue per year.
- In the North Country, the epicenter of New York's maple industry, there are 70 million potential new taps, and the TAP Act could help bring in an additional $19 million in revenue per year.

Maple production in the US peaked in the 1800s, steadily declined throughout the 20th century, and is experiencing a rebirth in the 21st century. Maple syrup is a luxury item that is now consumed throughout the world, yet the greatest market for syrup is still the United States. The U.S. currently imports almost four times as much syrup as it produces, and Schumer states that there is a tremendous opportunity for US producers to expand production and fill domestic markets with 'local' syrup.

To combat the lack of utilization of the state's maple resources and unleash Upstate New York's maple tapping and research potential, Schumer announced he will introduce new legislation that would authorize USDA to make grants of up to $20 million per year to support maple syrup production in states like New York. These grants could be used to encourage owners and operators of privately held land to expand their tapping operations or voluntarily make their land available for maple tapping, to promote maple industry research and education at institutions like Cornell, and for market promotion for maple syrup and maple products. Schumer will fight to include the Maple TAP Act in the upcoming farm bill.

"Passing this bill would provide a sweeter future for our maple farmers across Upstate New York," Schumer added. "The entire state economy benefits by building a thriving maple industry through research, education, marketing and additional tapping on these private lands, not to mention more delicious maple syrup for New Yorkers."

Maple Syrup 2011

June 13, 2011

A field office of the National Agricultural Statistics Service
United States Department of Agriculture

NEW ENGLAND Agricultural Statistics
53 Pleasant Street
Room 2100
Concord, NH 03301

Gary R. Keough, Director | Phone: 603-224-9639 | Fax: 603-225-1434 | www.nass.usda.gov/nh | nass-nh@nass.usda.gov

A special "Thank you" goes to New England producers and agri-businesses who have helped us by completing the annual Maple Syrup survey during April and May.

MAPLE SYRUP PRODUCTION UP 43 PERCENT NATIONWIDE

UNITED STATES: United States maple syrup production in 2011 totaled 2.79 million gallons, up 43 percent from the revised 2010 total. The number of taps is estimated at 9.58 million, 3 percent above the 2010 revised total of 9.26 million. Yield per tap is estimated at 0.292 gallons, up 38 percent from the previous season's revised yield.

All States showed an increase in production from the previous year. Vermont led all States in production with 1.14 million gallons, an increase of 28 percent from 2010 and the highest level since 1945. Production in New York, at 564,000 gallons, secured New York's place as the second in the nation. Maine's sugar makers produced 360,000 gallons of syrup in 2011 an increase of 14 percent from 2010. In New Hampshire, production is estimated at 120,000 gallons, highest in over 85 years. Connecticut and Massachusetts produced a combined total of 79,000 gallons, a significant increase of 108 percent from 2010. Pennsylvania production was a record high with an increase of 137 percent. Ohio producers reported excellent sap collecting conditions which produced the highest yield per tap that the State has seen since this statistic was first measured in 2001.

Temperatures were reported as favorable for optimal sap flow in all States. On average, the season lasted 32 days compared with 23 days last year. In most States, the season started later than last year. The earliest sap flow reported was January 10 in New York. The latest sap flow reported was May 7 in Wisconsin. Sugar content of the sap for 2011 was up from the previous year. On average, approximately 43 gallons of sap were required to produce 1 gallon of syrup. This compares with 46 gallons in 2010 and 43 gallons in 2009. The majority of the syrup produced in each State this year was medium to dark in color with the exception of Maine and Vermont where syrup was mostly light to medium amber.

The 2010 United States price per gallon averaged $37.50, down $0.40 from the revised 2009 price of $37.90. The United States value of production, at $73.6 million for 2010, was down 19 percent from the revised previous season. Value of production was down in all States.

New England (excluding Rhode Island): New England's maple syrup production in 2011 totaled 1.70 million gallons, up 28 percent from 2010's revised total of 1.33 million gallons. Vermont remained the top maple State in New England and the Nation, producing 41 percent of the Nation's maple syrup. Taps in New England totaled 5.51 million, up 3 percent from last year's revised total and accounted for 57 percent of the Nation's maple taps.

The 2011 maple season was rated mostly favorable in temperature, causing production to rise in all five New England States, particularly in southern States. Temperatures were reported as 2 percent "too warm" in 2011, compared to 81 percent "too warm" last year. Excessive snow depth proved to be an obstacle to many sugar producers at the start of the season but helped extend the length of the season across New England. Some sugar makers in Maine reported collecting sap as late as the first week of May. In addition, temperatures were warm enough during the day and below freezing during nighttime, resulting in consistent and steady sap flows. Connecticut and Massachusetts producers, those hit hardest by the unseasonably warm spring of 2010, reported significant improvements in yields compared to the previous year. Producers relying on gravity taps welcomed the cooler temperatures, and also reported significant increases in production. Many of these sugar makers claimed 2011 as a record year in production.

Earliest dates for sap collection for each State were as follows: Vermont - February 1, New Hampshire - February 14, Connecticut - February 2, Massachusetts - January 31, and Maine - February 12. Average start dates ranged from February 24 to March 10. Latest closing dates for sap collection for each State were as follows: New Hampshire – April 30, Connecticut – April 21, Massachusetts – April 27, Vermont – April 30, and Maine – May 6. Average finish dates ranged from March 29 to April 14. The sugar content of the sap was below average in New England with the exception of Maine, requiring approximately 42 to 44 gallons of sap to produce 1 gallon of syrup. In contrast, only 34 gallons of sap were required to produce 1 gallon of syrup in Maine. Over 80 percent of the syrup produced was in the light and medium amber categories; however New Hampshire and southern New England States produced more dark amber than light.

2010 PRICES AND SALES: Across New England, the average equivalent price per gallon for 2010 maple syrup varied widely depending on the percentage sold retail, wholesale, or bulk. The 2010 all sales equivalent price per gallon in Connecticut averaged $70.00, up $6.00; Maine averaged $33.50, up $0.60; Massachusetts averaged $56.50, up $2.90; New Hampshire averaged $55.40, up $1.90; and Vermont averaged $34.00, down $1.10. Vermont and Maine's prices continue to be lower than the other States because of the high percentage of bulk sales. New England's 2010 gallon equivalent price across all types of sales averaged $36.02, a decrease of $0.50 from the 2009 price of $36.52.

MAPLE SYRUP: Taps, Yield, and Production, 2009 – 2011

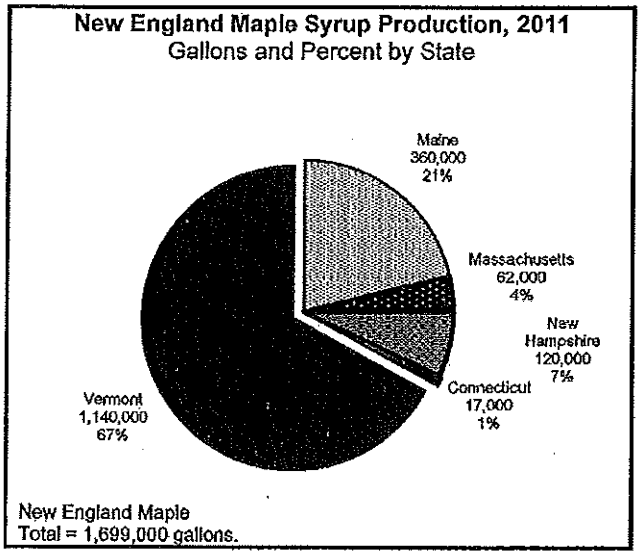
State	Taps			Yield per Tap			Production		
	2009	2010	2011	2009	2010	2011	2009	2010	2011
	1,000 Taps			Gallons			1,000 Gallons		
Connecticut	71	75	71	0.183	0.120	0.239	13	9	17
Maine	1,470	1,470	1,470	0.265	0.213	0.245	395	*330	360
Massachusetts	230	250	245	0.200	0.116	0.253	46	29	62
New Hampshire	385	320	420	0.211	0.207	0.286	82	67	120
Vermont	3,030	*3,150	3,300	0.304	*0.283	0.345	920	890	1,140
NEW ENGLAND [1]	5,186	*5,265	5,506	0.283	*0.253	0.309	1,466	*1,330	1,699
Michigan	450	490	495	0.256	0.167	0.248	115	82	123
New York	1,970	1,900	2,010	0.240	0.169	0.280	473	321	563
Ohio	375	385	405	0.240	0.169	0.309	90	65	125
Pennsylvania	464	465	503	0.186	0.116	0.254	86	54	128
Wisconsin	670	650	660	0.299	0.180	0.235	200	117	155
UNITED STATES	8,975	9,258	9,680	0.268	0.242	0.292	2,404	1,960	2,794
New Brunswick [2]							464	371	
Nova Scotia [2]							23	34	
Ontario [2]							501	346	
Quebec [2]							*9,787	7,881	
CANADA [2 3]							*10,775	8,634	

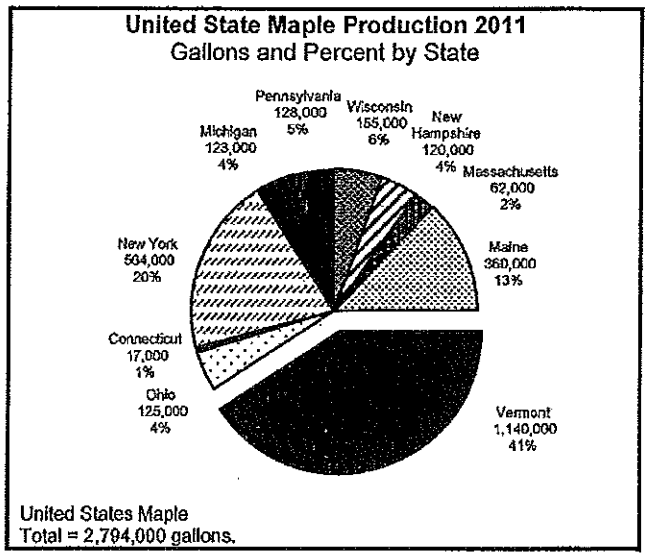
* Revised.
[1] New England includes Connecticut, Maine, Massachusetts, New Hampshire, and Vermont.
[2] Canadian data incomplete; current figures were unavailable at the time of publication. Canadian imperial gallons were converted to United States gallons (1 imperial gallon equals 1.2021778 United States gallons).
[3] Data may not add due to rounding.
SOURCE: United States – *Crop Production*, June 9, 2011, National Agricultural Statistics Service, USDA.
Canada, Production – *2010 Production and Value of Honey and Maple Products*, Statistics Canada

MAPLE SYRUP: Production, Price, and Value, 2008 – 2010

State	Production			Average Gallon Equivalent Price of All Sales [1]			Value of Production		
	2008	2009	2010	2008	2009	2010	2008	2009	2010
	1,000 Gallons			United States Dollars			United States 1,000 Dollars		
Connecticut	19	13	9	62.30	*64.00	70.00	1,184	*832	630
Maine	240	395	315	26.80	32.90	33.50	6,432	12,996	10,553
Massachusetts	65	46	29	46.50	53.60	56.50	3,023	2,466	1,639
New Hampshire	95	82	67	54.80	*53.50	56.40	5,206	*4,386	3,780
Vermont	710	920	890	39.50	35.10	34.00	28,045	32,292	30,260
NEW ENGLAND	1,129	1,466	*1,330	40.92	36.52	36.02	46,096	*53,615	47,902
Michigan	105	115	82	41.00	45.00	45.00	4,305	5,175	3,690
New York	528	430	112	32.00	40.00	39.40	16,896	17,200	4,413
Ohio	100	90	65	37.90	40.30	42.70	3,790	3,627	2,776
Pennsylvania	100	86	54	39.40	36.10	42.00	3,940	3,105	2,268
Wisconsin	160	200	117	39.10	36.70	39.50	5,865	7,340	4,622
UNITED STATES	1,912	2,404	*1,960	40.70	*37.90	37.50	77,892	*91,085	73,551
New Brunswick [3]	203	464	371	42.94	41.42	47.42	8,717	19,220	17,594
Nova Scotia [3]	25	23	34	36.20	*39.09	45.44	905	*899	1,545
Ontario [3]	315	501	346	48.55	44.26	52.50	15,293	22,172	18,166
Quebec [3]	5,337	*9,787	7,881	34.58	*26.93	28.94	184,572	*263,599	228,099
CANADA [3]	5,879	*10,775	8,634	35.63	*28.39	30.74	209,485	*305,891	265,404

* Revised
[1] Average gallon equivalent price in United States dollars is a weighted average across retail, wholesale, and bulk sales. This price is lower for States, such as Maine and Vermont, with more bulk sales. The average gallon equivalent price is not the average retail price paid for a gallon of syrup. See page 4 for retail gallon average prices.
[2] New England includes CT, ME, MA, NH, and VT.
[3] Canadian dollars to United States dollars exchange rates were valued at or near the closest date to July 1 for each year. Exchange rates 0.9886 for 2008, 0.8646 for 2009, and 0.9449 for 2010. Canadian imperial gallons were converted to United States gallons (1 imperial gallon equals 1.2021778 United States gallons).
SOURCE: United States – *Crop Production*, June 9, 2011, National Agricultural Statistics Service, USDA.
Canada, Production – *2010 Production and Value of Honey and Maple Products*, Statistics Canada





SOURCE: *Crop Production*, June 9, 2011, National Agricultural Statistics Service, USDA.

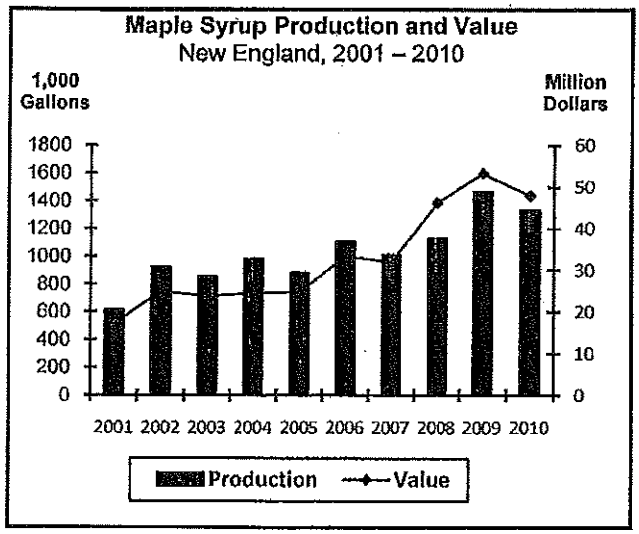
MAPLE SYRUP: Sales Percentages, New England, 2009 – 2010

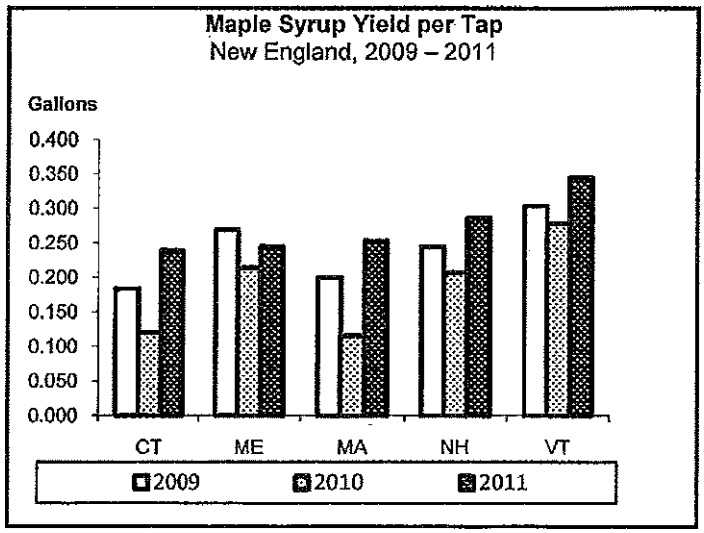
Type of Sale	Connecticut		Maine		Massachusetts		New Hampshire		Vermont	
	2009	2010	2009	2010	2009	2010	2009	2010	2009	2010
	Percent		Percent		Percent		Percent		Percent	
Retail	*55	65	1	1	65	55	55	45	10	15
Wholesale	30	20	7	1	25	35	30	40	5	5
Bulk	*15	15	92	98	10	10	*15	15	85	80

MAPLE SYRUP: Sales Percentages, Other States, 2009 – 2010

Type of Sale	Michigan		New York		Ohio		Pennsylvania		Wisconsin	
	2009	2010	2009	2010	2009	2010	2009	2010	2009	2010
	Percent		Percent		Percent		Percent		Percent	
Retail	58	53	39	28	47	55	81	69	30	39
Wholesale	17	26	15	15	18	20	4	9	14	13
Bulk	25	21	46	57	35	25	15	22	56	48

* Revised.
SOURCE: *Crop Production*, June 9, 2011, National Agricultural Statistics Service, USDA.





A 25

MAPLE SYRUP: Retail and Wholesale Prices by Size of Containers, 2008 – 2010

State and Year	Retail								Wholesale							
	Gallon	Half Gallon	Quart	Pint	Half Pint	3.4 oz. (100 ml)	8.5 oz. (250 ml)	12 oz. (355 ml)	Gallon	Half Gallon	Quart	Pint	Half Pint	3.4 oz. (100 ml)	8.5 oz. (250 ml)	12 oz. (355 ml)
	Dollars								Dollars							
Connecticut																
2008	54.10	27.60	16.80	11.00	7.00	3.50	8.65	10.90	46.80	27.70	14.60	8.90	5.75	2.40	(D)	(D)
2009	57.00	29.70	18.30	11.50	7.35	3.95	10.00	(D)	46.50	28.00	13.20	8.85	5.55	(D)	(D)	(D)
2010	62.00	31.70	19.60	11.80	7.70	4.50	9.20	(D)	59.00	29.50	14.40	10.70	4.90	4.10	(D)	(D)
Maine																
2008	45.20	25.20	14.20	8.30	5.50	2.95	8.85	12.30	38.40	21.80	11.90	6.90	4.30	3.50	7.00	(D)
2009	52.00	28.00	16.10	9.25	7.20	3.60	9.25	9.80	39.50	22.00	13.00	7.00	4.50	(D)	(D)	(D)
2010	50.10	28.40	15.40	9.55	5.90	4.45	9.40	(D)	42.30	26.70	13.80	7.00	4.15	(D)	6.90	(D)
Massachusetts																
2008	48.00	23.20	14.00	8.75	6.05	4.05	8.45	9.65	42.20	24.20	13.00	7.40	4.95	(D)	(D)	(D)
2009	52.10	27.20	15.90	11.30	7.65	4.70	9.20	10.10	44.90	25.20	13.00	7.20	4.90	2.75	(D)	(D)
2010	53.00	26.80	17.20	10.00	6.50	3.40	(D)	9.50	44.00	24.70	14.30	8.00	5.10	2.30	(D)	7.60
New Hampshire																
2008	44.30	25.30	14.60	8.65	5.10	3.45	7.20	8.25	38.60	22.90	13.40	7.70	4.15	2.05	(D)	(D)
2009	48.30	28.10	16.40	10.05	6.50	3.70	8.25	8.80	40.60	21.80	11.40	6.60	3.95	2.35	(D)	(D)
2010	49.00	28.10	17.10	9.80	6.50	3.80	9.10	(D)	45.70	25.30	13.00	7.10	3.80	2.30	3.60	(D)
Vermont																
2008	40.60	24.10	15.00	9.65	6.35	4.20	7.35	11.30	38.10	21.70	12.60	7.45	5.10	2.95	6.00	6.10
2009	43.90	25.50	15.50	9.20	6.00	3.85	8.00	13.60	38.50	23.20	13.40	7.80	4.80	2.20	6.20	6.10
2010	43.30	25.50	15.70	9.70	6.20	3.80	7.50	12.00	37.00	23.10	12.80	7.60	4.60	3.50	6.20	(D)
Michigan [1]																
2008	36.30	20.90	12.00	7.40	5.00				30.70	18.00	10.10	6.10	3.70			
2009	42.70	21.30	12.70	7.80	6.60				35.10	21.00	11.20	6.30	4.20			
2010	42.00	22.60	12.90	7.80	5.10				34.10	21.90	12.40	7.60	4.50			
New York [1]																
2008	38.10	22.90	14.00	8.85	5.85				35.90	20.80	11.60	6.50	4.00			
2009	40.10	23.10	14.30	8.90	6.25				36.80	22.30	12.00	7.00	4.25			
2010	42.80	24.00	15.00	8.90	5.35				40.70	22.20	12.20	7.30	4.20			
Ohio [1]																
2008	33.60	20.20	12.40	7.80	5.35				32.50	18.00	11.20	6.70	4.80			
2009	37.70	22.10	13.40	8.35	5.80				35.00	21.20	12.60	7.55	4.25			
2010	40.50	23.00	13.90	8.50	5.95				34.30	21.20	11.30	7.55	4.05			
Pennsylvania [1]																
2008	37.30	22.00	13.00	7.15	4.40				34.60	17.80	10.20	5.95	4.40			
2009	38.00	21.70	12.70	7.90	4.90				32.20	17.90	10.20	6.20	4.10			
2010	39.70	22.70	13.70	8.25	5.45				40.30	19.20	11.60	6.55	4.05			
Wisconsin [1]																
2008	37.70	21.50	10.70	7.40	5.20				35.50	20.80	11.70	6.50	4.20			
2009	37.30	20.10	11.20	7.30	5.70				37.30	21.80	11.80	7.20	4.00			
2010	38.10	21.50	11.80	7.50	5.70				37.30	21.60	12.00	7.20	4.60			

(D) Data not published to avoid disclosing individual operations.
[1] Retail and wholesale price for 3.4 oz. (100 ml), 8.5 oz. (250 ml), and 12 oz. (355 ml) container sizes are only available in New England States.
SOURCE: *Crop Production*, June 9, 2011, National Agricultural Statistics Service, USDA.

MAPLE SYRUP: Bulk Prices by Grade and All Sales Gallon Equivalent Prices, 2008 – 2010

State and Year	Bulk					All Sales Per Gallon Equivalent Price [1]
	Grade A			Grades B and C	All Grades	
	Light Amber	Medium Amber	Dark Amber			
	Dollars per Pound [2]					Dollars
Connecticut						
2008	(D)	(D)	3.05	2.95	2.90	62.30
2009	(D)	(D)	(D)	(D)	(D)	*64.00
2010	(D)	(D)	(D)	(D)	(D)	70.00
Maine						
2008	3.35	3.30	3.30	3.30	3.30	36.80
2009	2.85	2.85	2.85	2.65	2.85	32.90
2010	3.00	3.00	2.90	2.70	3.00	33.50
Massachusetts						
2008	3.40	3.05	3.00	2.75	3.15	46.50
2009	2.85	2.80	2.70	2.50	2.65	52.60
2010	(D)	(D)	(D)	(D)	2.55	56.50
New Hampshire						
2008	3.20	3.20	3.10	3.10	3.20	53.80
2009	2.90	2.90	2.80	2.50	2.75	*55.50
2010	2.90	2.90	2.75	2.40	2.65	56.40
Vermont						
2008	3.20	3.05	3.05	2.85	3.05	39.50
2009	3.00	2.95	2.90	2.65	2.90	35.10
2010	2.75	2.75	2.65	2.35	2.65	34.00
Michigan [3]						
2008					3.10	41.00
2009					2.80	45.00
2010					2.80	45.00
New York [3]						
2008					3.15	42.40
2009					2.71	40.60
2010					2.71	39.40
Ohio [3]						
2008					2.80	37.90
2009					2.70	40.80
2010					255	42.70
Pennsylvania [3]						
2008					2.45	38.30
2009					2.70	38.70
2010					2.45	42.00
Wisconsin [3]						
2008					2.75	39.10
2009					2.60	36.70
2010					2.60	39.50

* Revised.
(D) Data not published to avoid disclosing individual operations.
[1] Average gallon equivalent price was a weighted average across retail, wholesale, and bulk sales.
[2] For dollars per gallon: multiply dollars per pound by 11.02 pounds per gallon.
[3] Grades A, B, and C price per pound is only available in the New England States.
SOURCE: *Crop Production*, June 9, 2011, National Agricultural Statistics Service, USDA.

Sugar Maker Comments by County

CONNECTICUT – **Fairfield:** Deep snow and heavy rains made season difficult. Weather was perfect. Heavy flows during the first week of March. Last 10 days of March were the best of season. **Hartford:** Three feet of snow made for a late start. Weather was great despite several feet of snow. When melted, the sap ran good. Syrup came out great tasting, even in April. **Litchfield:** Deep snow depth of over 3 feet but good sap flow – sporadic at times but generally even. Great season. Used snowshoes for only 2nd time in 25 years. Significant improvement from both 2009 and 2010. Season started slow and cold, then picked up in March. Temperatures seldom got too warm, though the season seemed to start late. Sap was collected for only one week in February. Towards the end, four warm days in a row drastically stopped the season. **Middlesex:** It was a perfect season. **New Haven:** There was too much snow on the ground to get to trees early in the season. It was tough to get started but best year yet. This was a fabulous year. **New London:** A great season after last year. The snow cover and the temperature fluctuations helped a lot. **Tolland:** Too much snow. Weather much better than last year but some cold days hampered flow. Weather sounded good on forecast but each day generally didn't warm up until the afternoon. **Windham:** Too much snow to get out to set taps. Extreme snow conditions were a challenge throughout the season. Conditions were very good. Season was a little later than last year. The barometric pressure was a big factor along with ideal temperatures. Gravity tubing did very well. Sugar content consistently high.

MAINE – **Androscoggin:** Best year ever in 20 years. **Aroostook:** Too cold early until about mid-March. Best time about March 22-30. Syrup was really dark at the beginning of the season and then it lightened up to more normal coloring. Had ten days of really good sap runs. Sugar content was good overall. Not a lot of big sap runs. A longer dragged out season than normal. **Cumberland:** One of the best years ever. Started late due to snow pack. Once the sap began to flow in early March, it continued steadily throughout the month. A week with no flow; too warm. **Franklin:** Best year ever. Cooperative temperatures this year; just cold enough in March. Sap was gathered with very low temperatures this year. Many runs with temperatures between 36F to 39F. Poor season at high elevation as it was too cold for production. Spring was slow in coming this year with snow on ground in early May. Syrup grade was better than 2010 with low percentage of commercial syrup produced. **Hancock:** The snow was very deep this year. The sap ran good on trees near the road, but not in the woods at the beginning of the season. **Kennebec:** Best season on record. More sap from fewer taps. Lots of snow and very cold to keep sap flowing resulted in a much better year than 2010. Cold nights and warm days made for a perfect season. Temperatures were favorable. Steady, very consistent runs. Much better year than 2010. Excellent flavor all season; syrup was very sweet. **Knox:** Slow to start but happy with overall volume. Made more dark syrup than normal. **Lincoln:** The snow was very deep this year. **Oxford:** Good continuous season. Perfect weather, later than usual. Runs were steady all season long. Season started later than usual due cold weather and lots of snow. Weather stayed cold into April and snow was on the ground until 1st of May. Very light and very sweet maple syrup. Last week of season went from medium amber to grade B in about three days. **Penobscot:** Exceptional year for maple syrup production. Steady runs resulting in lots of sap but not sweet. A normal season for a change. **Piscataquis:** At 1300 ft. elevation, when the weather was cold, it was too cold and when the weather was hot, it was too hot. Old fashioned winter with snow lasting into May. **Sagadahoc:** The freeze-thaw process was more erratic this year. **Somerset:** Best year ever. Perfect season with freezing nights and perfect running days. Cold season with a lot of snow. Trees ran almost every day, even in wind. Very long season with a week and a half too cold to run. Many days the wind was enough for it not to run. **Waldo:** The weather was good but too windy. Best season since 2003. Taps had to be pulled after amount of sap exceeded capacity. **Washington:** Best season ever. Deep snow cover well into March with favorable temperatures into April. Syrup was generally darker than usual. **York:** It was a cool prolonged season; we have never boiled more than 18 times. Much better conditions than 2010. Weather conditions and temperatures in southern Maine were ideal for syrup making. Sugar content reached 4% and maintained a solid 3% for the remainder of the season. Sap flow was plentiful and crystal clear which made the quality of the syrup that much better. Good snow cover and a lot of sunny days, so sap flowed heavily for much of the season.

MASSACHUSETTS – **Berkshire:** Good year. Season started cold and was late. Deep snow prevented some tapping of trees. Only one day above 50F throughout the whole season. Syrup stayed light all season long. **Franklin:** Best season so far. Cool and not too warm. Depth of snow prevented some taps from being set. When the snow finally melted, sap flowed well. Taps had to be moved to high ground due to lack of freezing. Higher elevations with ideal sugaring weather helped make best season in 34 years. It got into the sixties for 2 or 3 days early in the season and gave sap flow a setback. Very unpredictable during last week of sugaring. Cold, windy, but good flow. Flavor overall was excellent. **Hampden:** A good but not a very good year. The weather was too cold and winds were not in the right direction. Cool down of nighttime temperatures at end of season boosted overall totals. **Hampshire:** Excellent season. Had to use snow shoes. Best year for about 20 years. Many days sap ran with temperatures in mid-30s. Slow going and too cold for 4 days in middle of March. Most runs started around noon and ended at 4 pm. Quality of syrup exceptional with flavor rated as outstanding. **Middlesex:** A good year with erratic temperatures. **Suffolk:** Very deep snow. Some days above freezing made darker syrup. **Worcester:** Long and good season. Very favorable weather conditions. Winter too tough. Too much snow.

NEW HAMPSHIRE – **Belknap:** Very good season overall - best in years. Cold and a good snow cover prolonged the season. Good sugar content and syrup of great quality with lots of medium amber. Season stopped rather quickly. **Carroll:** Very nice year, certainly best year since 2004 if not better. No big runs but steady right through the season. Erratic season: poor start, very strong runs late March, then abrupt end in early April. Excellent quality **Cheshire:** Very good, long season. Very deep snow to start. No runs until 2nd week in March. Early warm spell, then no fluctuations in temperature to promote good runs. Sugarbush exposed to the sun flowed very well while taps that are in the shade did not flow as well. End of season freezes not deep enough. Excellent quality and flavor. **Coos:** Season started out slow

then picked up by the end of March and first of April. Combination of favorable weather, good snow cover, vacuum, and check valve spot gave us a record season. **Grafton:** Snow was too deep to sugar this year; couldn't move through it. First time to finish sugaring with snow in the bush. The season started later this year due to cold weather. However, once the sap cut loose it kept coming. Sugar content was better than usual. Flow was up and down all season, about an average year volume-wise. **Hillsborough:** Late season but a real good one. February 14 – March 5 was too cold for sap flow. Too cold at night – not warm enough until noon for sap to run. Middle to end of March very good. The perfect weather conditions were persistent throughout the season. **Merrimack:** It was a year for the record books with near perfect weather. Deep snow made tapping hard. Season started late and ended late. Best running conditions in 30 years. March runs were the best experienced since the mid-1980s. Very consistent favorable conditions with good cold nights. All grades had great flavor this year. **Rockingham:** Three days of freeze, 2-3 day warm spell, never had a consistent long run. There was never a consistent long run. More grade B syrup was made than a normal year. **Strafford:** Perfect weather for most of March and early April. A very nice, long season. March 18 looked like the season was done as a 50F day followed by 60F day caused bacteria to slime the bottom of buckets. Cold air returned for 10 days, making an average season into a really good one. **Sullivan:** Late, but perfect weather when it started for those who still depend on gravity. Longest season since 1978. Deep powder snow led to snowshoes and slower tapping. Cold, wet, miserable weather gathering, but good runs all the time. Ice storm damage prevented good vacuum for the first week of the season. Temperature was too cold from March 20 to March 30, otherwise what was a good season would have been an excellent one. Consistently very good flavor, even with the darkest syrup. Low sugar content.

VERMONT – **Addison:** An exceptional year with an almost continuous flow of sap. After a rather cold, slow start, we had much better weather which helped to melt the snow and let the sap run. A late start with a 10-day freeze, followed by good sap flow in April resulted in our best year ever. Good runs made very flavorful light syrup. **Bennington:** Good year with very good syrup color. The majority of our season's crop was made in about 2-3 weeks. Early on, conditions were too cold, then the sap ran well, and it shut off before bud break. **Caledonia:** Late start and with long stretches without freezes. Season was more normal than 2010 but a little too cold at our location. North facing bush affected by cold temperatures and winds while south-facing bush did better than 2010. After mid-March, a cold snap changed syrup from dark to fancy. Sap averaged 3.2% sugar and was frozen in buckets for 10 days between March 20 to March 30. Sap ran hard after the freeze and ended up with excellent color. **Chittenden:** Normal weather. Warm periods were hotter than desired but snowpack moderated impact. Violent windstorms during 12/1/10 caused severe damage to pipelines and tappable trees while also resulting in numerous leaning trees collapsing from snow load. Lost a valuable week to cold weather during last week in March. Lots of overcast days with rain and/or snow with no good days of freezing nights and warm days. Short and sweet season with excellent syrup both in flavor and color. **Essex:** Long season. Weather was a little too cold. Exceptional quality of syrup. **Franklin:** Too much snow for tractor making us use four-wheeler to gather sap and to make roads. Windstorm took down over half of the lines and many others were covered over in deep snow. It appears to have been a much better than average season for everyone. It started later than normal but went on for over a month which is much longer than normal. Loss of one week because it was cold day and night. Borderline temperatures at my elevation started season slow but deep snow and warmth helped season at the end. Syrup was of good flavor but color was darker than normal. **Lamoille:** Late start but with very late finish resulted in one of the best seasons ever in both production and quality. It was hard getting set up due to lots of damage from deep snow. Trees with southern exposure ran well despite having a lot of snow. The cold spell mid-season was a setback. **Orange:** Perfect weather except it only got up to 35-37F, then turned too warm. Weather was poor in March and late April. A cold snap between March 22 and March 31 reduced production. Sap was excellent in sugar this year. **Orleans:** Typical sugaring weather with hot and cold spells. It never got really warm so it sustained the season. Cold early so 80% of crop was light syrup. Had few warm days in March, lots of snow, and a very sharp cold spell in mid-season. A normal season as timing goes with syrup being mostly fancy. **Rutland:** Pretty good year. Cold and snowy season. There was too much snow in many places to tap. It never got too warm but didn't get cold enough. Good flow from south-facing woods. **Washington:** Excellent season. Cooler days on average but length of season made up for this. The weather began favorable but it did go into a freeze-down for about 7 days mid-season. The quality and flavor is delicious, mostly dark A or medium amber was made. **Windham:** Slow to get started but it turned into a good year. There were no large runs but a steady flow. If it had been any colder, excellent production would have gone to poor production. Dark syrup produced but with good sweet flavor. **Windsor:** Snow was too deep. It would have been a better season but on the 1st Sunday in March we had a devastating ice storm. The season started on time but was interrupted by cold weather in mid-March. There were prolonged cold spells, then extended warm spell closed season prior to late run. Elevation was the determining factor in temperature issue as it warmed up too late in day for good run before temperature fell back again at night. There was a really favorable stretch of weather from 2nd week of March through 2nd week of April. Very low sugar content. Excellent quality, color mix and flavor. We made good balance of all grades of syrup.

This is a summary of New England agricultural statistics taken from national Crop Production release nationwide reports issued by USDA's **National Agricultural Statistics Service**, June 9, 2011 at 8:30 a.m. The New England Field Office can be reached at 1-800-642-9571 or through e-mail at nass-nh@nass.usda.gov

All national reports and state newsletters are available on the Internet at: www.nass.usda.gov. These reports are also available by subscription free of charge direct to your e-mail address. Starting with the NASS home page at www.nass.usda.gov locate the syndication section at the bottom of the right hand column, under receive reports by E-mail, click national or state, then follow the instructions on the screen.

Gary R. Keough, Director
Statistician: Hernán Ortiz

Alexander I. Slosman, Office Automation

Ty Kalaus, Deputy Director
Statistician Assistant: Joyce Supry

Quebec's Maple Syrup Supply Management and Its Impact on Maine Producers

Veronique Theriault, Grad Student, George Criner, School of Economics/NSFA/MAC, Kathryn Hopkins, Cooperative Extension

A31

Problem Statement

Maple syrup is only produced in the US and Canada, with most being produced in Quebec, which supplies about 79% of the world's syrup. Large Quebec production increases and unstable prices in the 1990's led Quebec to create a supply management system. Given that the US is by far the largest export market for Quebec's maple syrup, implication for Northeast producers are important. Maine is the second largest US producer behind Vermont, with an estimated 2005 value to producers of $8.58 million.

Objective

From Quebec's standpoint, does the supply management and quota system make sense? Also, to what extent can Maine producers benefit from the quota?

Quebec's Supply Management

- In 2000, production reached a record (surplus of 20 million lbs)
- In 2002, Quebec created the Sales Agency
  - Agency markets ALL wholesale maple syrup
  - Advanced payment to producers required
  - Removed surplus from market to maintain target price
- In 2004, quota on production
  - Quota based on historical production
  - Current quota for each producer is 75% of their base

Conceptual Model

Assumptions

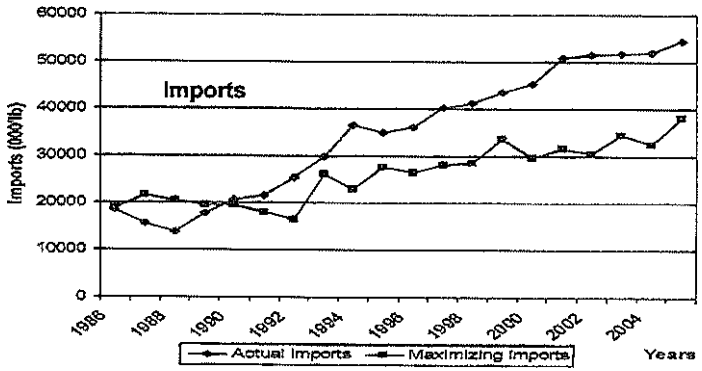
- Canadian imports should impact the US wholesale price
- The New England maple market is the best source of US data
- Because New England is large portion of US, New England price serves as US price proxy.
- The more Canadian imports, the lower the US maple syrup price

Empirical Model

OLS regression: $Q = b_1 + b_2 NE\_Price + b_3 Income + b_4 Honey\_Price$

- Q is the maple consumption per capita in the US (Production + Imports – Exports)
- NE_Price is the New England maple syrup real price
- Income is real per capita US income
- Honey_Price is the honey real price

Have Canadians been sending too much syrup to the US?



Demand Model Results

Maple consumption:

- decreases by ½% when maple price increases by 1%
- increases by 1.3% when income increases by 1% (Thus maple syrup is a "luxury good")
- increases by 0.15% when honey price increases by 1%

Maine Revenue Results

Scenario	Maine Production (Million lbs)	Maine Total Revenue (Million)
Current level of imports (less than optimal for Canada)	3.14 (current)	$8.58
Canadian exports cutback to optimal level (thus no response to Maine's production doubling)	6.29 (double)	$14.90
Canadian exports cutback to optimal level, plus an additional 3.14 million lbs cut to compensate for Maine's production increase.	6.29 (double)	$17.16

Conclusion

- Supply management and quota system makes sense for Quebec/Canada
- More syrup should be withheld to maximize Canadian revenue from the US.
- The Quebec quota benefits Maine producers by permitting production expansion with better prices and higher revenues.