

Prepared for



Working Lands Enterprise Board  
Vermont Agency of  
Agriculture, Food & Markets  
116 State Street  
Montpelier, VT 05620

# Forestry and Wood Products Sector Survey: Summary of Findings

February 2015

Prepared by



Yellow Wood Associates, Inc.  
228 North Main St.  
St. Albans, Vermont 05478

## Table of Contents

Purpose and Methods .....	2
About the Industry .....	3
Raw Materials .....	4
Innovation & Collaboration .....	4
VT Brand & Certification .....	5
Customers .....	7
Growth Interest, Opportunities & Challenges.....	10
Interest in Growth .....	11
Unmet Opportunity for Multiple Businesses.....	12
Barriers and Gaps.....	13
Conclusions.....	14

## Figures and Tables

Figure 1: Distribution of respondents by region .....	3
Figure 2: Distribution of Businesses (#) by Products and Services .....	3
Figure 3: Business size (employees) by sub-sector .....	4
Figure 4: Forestry Certification Requirements from Buyers.....	5
Figure 5: Participation in Forestry and Chain-of-Custody Certification by type of certification.....	5
Figure 6: Proportion of respondents with majority or all sales to retail and wholesale customers .....	7
Figure 7: Proportion of Sales to Wholesale/Retail Customers by Business Size .....	7
Figure 8: Proportion of Firms with Sales to Vermont, Out-of-State, Canadian and Other International Buyers .....	8
Figure 9: Proportion of Survey Respondents Providing Primarily Services that Work with Small, Medium and Large clients .....	9
Table 1: Buyer requests for more or new products by sub-sector.....	10
Figure 10: Proportion of requests for more/different products and services by sub-sector .....	10
Figure 11: Barriers to meeting increased demand.....	10
Figure 12: Proportion of Businesses Interested in Growth by Sub-Sector .....	11
Figure 13: Proportion of Businesses interested in Market Expansion.....	12
Figure 14: Proportion of opportunities identified by respondents relevant to specific sub-sectors .....	12

## Purpose and Methods

Vermont's Working Lands Enterprise Board (WLEB) is engaged in a project to provide a systems analysis of the forestry and wood products industry in Vermont. Yellow Wood Associates is working with the Forestry Subcommittee (composed of both WLEB and industry members) to complete this work. The Forestry and Wood Products Sector Survey is one piece of a year-long project that will engage stakeholders across the forestry and wood products industry in Vermont to better understand the industry and the opportunities for strategic investments to support and grow this important sector of Vermont's economy.

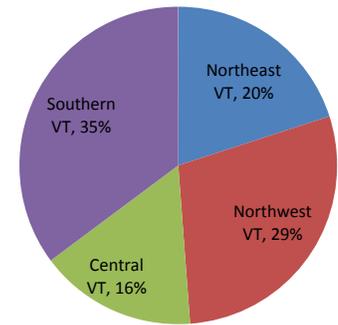
The Forestry and Wood Products Sector Survey was developed to gain insight into the production and market relationships that exist as well as gaps and opportunities related to market penetration as perceived by producers. The survey was designed to be completed online in approximately 15 to 20 minutes and included questions geared specifically towards businesses providing primarily services (forestry, logging, trucking, and sawmill services) or those primarily producing primary or secondary wood products.

The online survey was sent via direct email to 505 businesses across the sector. The survey received 175 responses to the survey, 155 responses (86% of all responses) came from direct emails for a 31% response rate; the remaining 20 responses came from web links shared by the *Vermont Forestry Roundtable*, *Vermont Sugar Makers Association* and *Guild of Vermont Furniture Makers*.

This document summarizes the survey findings in three sections: 1) About the Sector; 2) Customers; 3) Growth Interest, Opportunities & Challenges. The appendices, available under separate cover provide more detailed data (charts and tables) from the survey for each of these sections.

## About the Industry

The forestry and wood products industry in Vermont is very diverse in scale, business type, and markets served. This diversity within the industry is well represented by the responses received to the survey; the responses to the survey have confirmed the complexity of Vermont’s forestry and wood products industry. There are few, if any, generalizations that can be accurately made about the industry as a whole. Respondents to the survey were distributed across all counties of the state, with fairly even distribution across the four regions.<sup>1</sup> Southern Vermont had the greatest concentration of businesses producing wood products while Central Vermont had the least wood products businesses. (However more than a quarter of the businesses providing primarily services provide those services in Central Vermont.)



Businesses that responded to the survey provide a wide array of services related to the industry (including forestry, logging, trucking, and sawmill services as well as providing electricity and heat from wood and education, reforestation, and regulatory compliance services) and produce a wide breadth of primary and secondary wood products from sawlogs to fine furniture and non-timber forest products like maple syrup, Christmas trees and carbon credits. While 41% of respondents reported that their business provides primarily services, 41% reported that their business primarily produces wood products, 18% reported a mix of services and products. Of those businesses producing wood products, 9% produce both primary and secondary wood products and 32% produce more than two types of products (with 14% producing five or more products). See Appendices for a full breakdown of products and services.

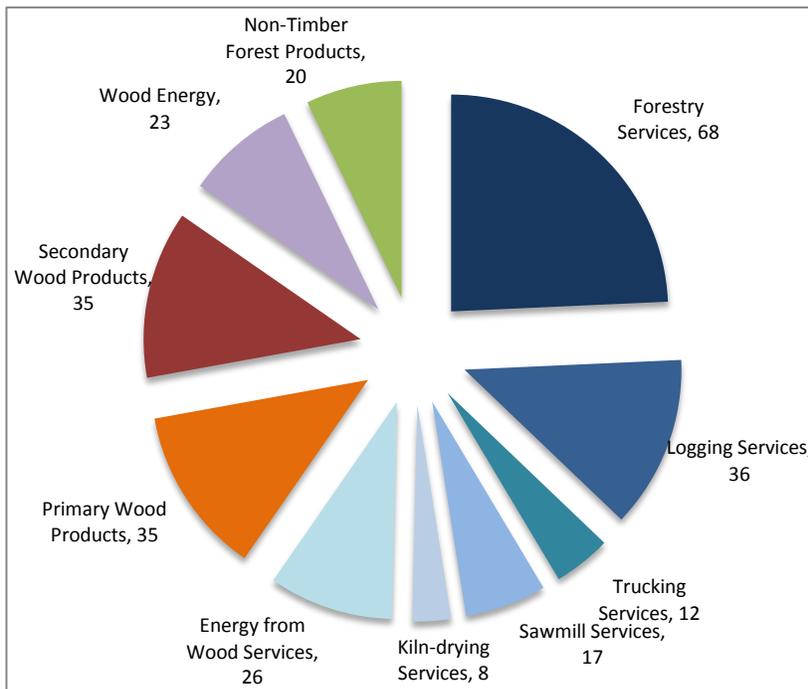


Figure 2: Distribution of Businesses (#) by Products and Services<sup>2</sup>

<sup>1</sup> Regions were determined by the Forestry Subcommittee and include: Northeast (Caledonia, Essex, Orleans Counties); Northwest (Addison, Chittenden, Franklin, Grand Isle Counties); Central (Orange, Washington, Lamoille Counties); and Southern (Rutland, Windham, Windsor, Bennington Counties).

<sup>2</sup> Survey respondents were able to choose as many products and services as applied to their business.

The majority of businesses in Vermont’s forestry and wood products industry are very small (one FTE or fewer); the industry also contains small firms with 10-50 employees and several firms with more than 50 employees. Forty percent of survey respondents are very small, employing either a sole proprietor (40%) or less than 1 full time employee (15%). The primary wood products and wood energy sub-sectors are the two areas of the industry where more than half of responding businesses employ more than one employee. Fifteen percent of responding businesses employ more than 10 employees and 5% employ more than 50 employees. These larger businesses, with more than 50 employees, are spread across the industry and include three furniture companies, a paper company, a forestry services company, and a primary wood products company. Employment in the industry is expected to be stable or grow in the next five years with just 3% of businesses expecting the number of people they employ to shrink, with the majority (53%) expecting to stay the same size and a third of businesses expecting to grow.

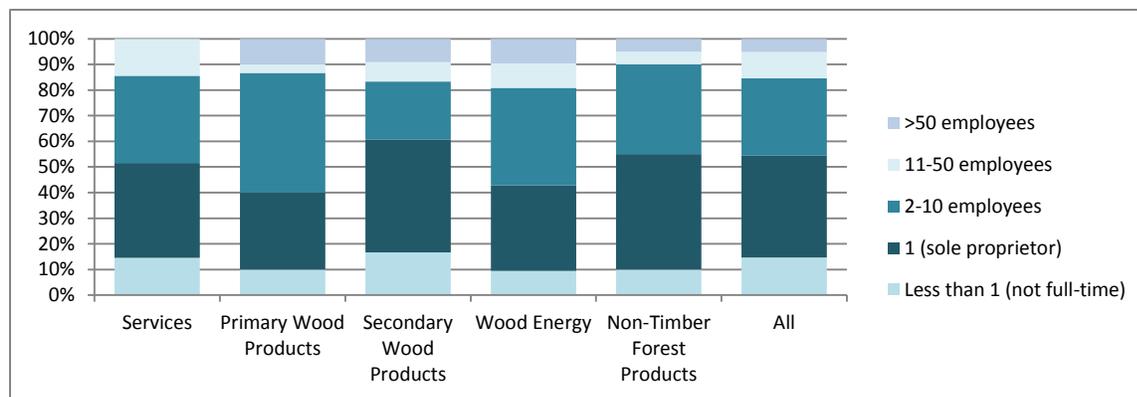


Figure 3: Business size (employees) by sub-sector

## Raw Materials

About half of the businesses producing wood products reported using wood inputs; of these, 43% get the majority of their wood inputs from Vermont, while 20% get less than a quarter of their wood inputs from Vermont and 9% don’t know what proportion of their wood inputs come from Vermont. Again, the proportion of wood inputs from Vermont varies by sub-sector, with half of those producing primary wood products getting the majority of their wood inputs from Vermont compared with only 41% of those producing secondary wood products. The most common wood inputs businesses get from Vermont are logs/sawlogs, followed by lumber, with maple being the most common species procured in Vermont (followed by cherry and ash).

## Innovation & Collaboration

Many businesses in Vermont’s forestry and wood products industry are innovators and more than half of businesses reported introducing new products and services in the past three years. These new products ranging from invasive species management for landowners, to new processes for producing woodchips for the heating market, to new home-goods and furniture for the residential market, further represent the diversity in the forestry and wood products industry and speak to an industry of businesses that is constantly working to adapt, improve and innovate to meet market demand.

The survey showed that more than half of responding businesses in the industry (54%) collaborate with other Vermont businesses to meet a variety of needs, with almost a quarter (23%) of respondents collaborating to fulfill orders from buyers – this is a good indicator of the ability of Vermont firms in the forestry and wood products industry being able to work together to meet new market opportunities. Businesses are also collaborating on, in order of frequency reported, joint marketing (17%), shared labor recruitment (17%), and equipment sharing (12%). However 46% do not collaborate at all and there is considerable room for increased collaboration of many types. Over 80% of respondents said they were either “somewhat interested” (55%) or “very interested”(23%) in working with other Vermont businesses.

## VT Brand & Certification

As part of this work, WLEB is interested in assessing the role of a Vermont brand in this industry as well as understanding the current status of forestry and chain of custody certifications in different parts of the industry (e.g. Which types of businesses are investing in certification and where is there demand for such certification?) and how branding and certification might help support and grow the industry.

This survey found that just 9% of survey respondents, all of which produce secondary wood products, participate in the “Vermont Quality Wood Products” brand. Several respondents reported using other Vermont brands such as “Guild of Vermont Furniture Makers” and “Vermont Woodlands Association.” Less than a third of survey respondents were interested in participating in a state or regional branding initiative, suggesting that a “Vermont” brand for this industry as a whole would not be a good investment at this time.

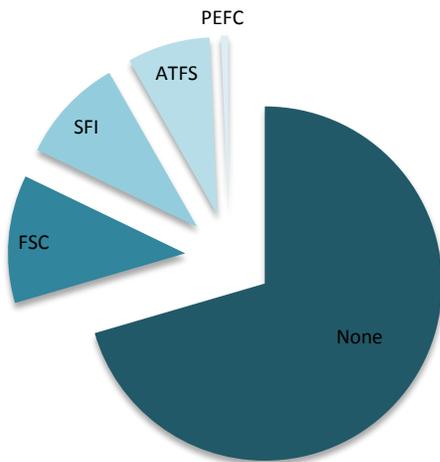


Figure 4: Forestry Certification Requirements from Buyers

When asked about certification, fewer than a quarter (23%) of all survey respondents reported that their customers require forestry or chain-of-custody certification. Of these, the most common certification was American Tree Farm System (ATFS) (28%), followed by Sustainable Forest Initiative (SFI) (18%), Forest Stewardship Council (FSC) (12%) and Programme for the Canadian Standard Association (PEFC) (1%).

The majority of survey respondents reported no participation in forestry certification programs (64%) or chain-of-custody certification programs (83%). The highest participation rate in forestry certification programs was in the wood energy subsector, with 44% participation, while the lowest rate of participation was in the secondary wood products subsector with less than 10% participation.

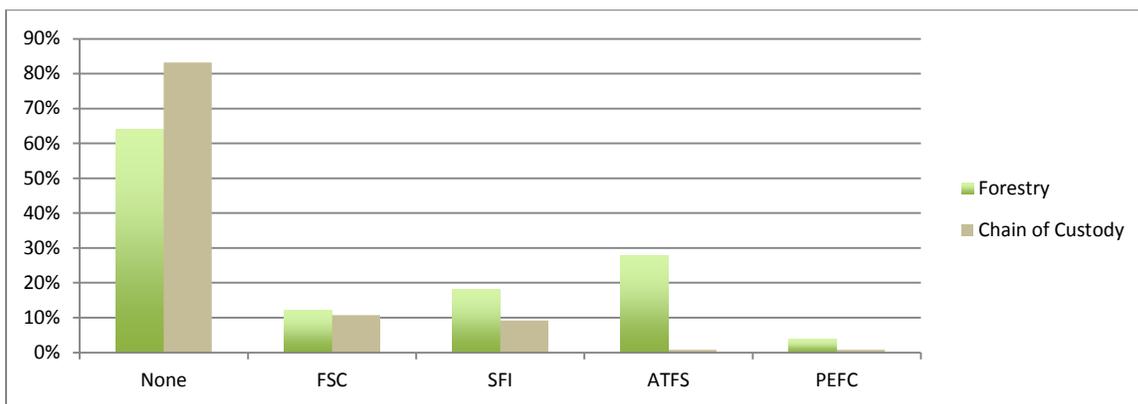


Figure 5: Participation in Forestry and Chain-of-Custody Certification by type of certification

The majority of respondents (55%) reported that the market didn't justify participation in certification programs; other barriers, in order of importance, included cost to maintain certification (40%), cost to certify (39%) and lack of time (21%). The low rate of participation in these programs and the wide range of respondent comments about why they do not participate, indicate that barriers to certification exist throughout the wood products and services supply chain.

***What barriers, if any, exist to your business's participation in forestry and/or chain-of-custody certification programs?***

"I'm not convinced that certification programs such as FSC are really making a difference in how forests are logged."

"The cost for certifying a logging business is simply too high for the benefit received."

"Supply of certified input is quite limited."

"No availability of certified wood. None of the programs have enough participation to make it worthwhile."

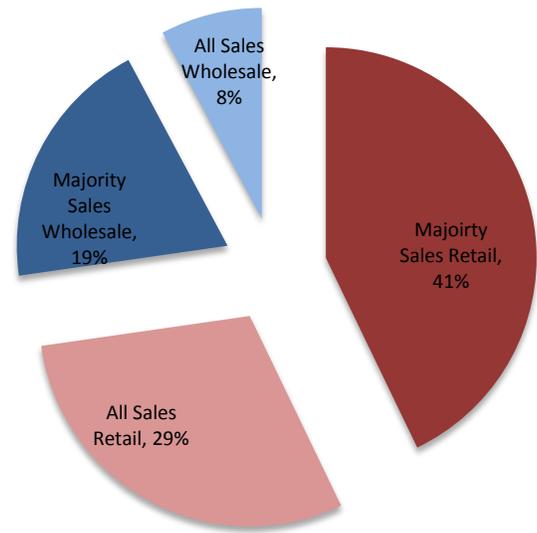
"Chain of custody is a good marketing tool however consumers on our level are not interested."

"Have had no demand."

"No one is interested in this stuff, why are you still asking people about this? This is clearly a very marginal portion of the industry."

## Customers

The complexity of the forestry and wood products industry is driven in part by the diversity of markets served by the array of businesses in the industry. Two-thirds of the survey respondents producing wood products (as opposed to providing primarily services) serve primarily retail markets (i.e. sell directly to end-users) and a quarter serve primarily wholesale markets (i.e. sell inputs and/or products to those who re-sell to others). Many do some mix of both; usually, though not always, these are businesses that sell primarily to wholesale buyers and make a limited amount of retail sales as well. The figure at right shows the proportion of survey respondents who make the majority (more than 50%) or all of their sales to retail buyers and the proportion of respondents who make the majority or all of their sales to wholesale buyers.



When this gets broken down by size of business, we would expect to see the majority of larger businesses, those with more than 10 employees, have the majority of their sales to wholesale customers. The survey found this was true for businesses with 11-50 employees.<sup>3</sup> The proportion of businesses selling primarily to wholesale customers decreases as business size goes down, as would be expected. Improving access to wholesale customers will be an important component to growing the forestry and wood products industry in Vermont.

retail and wholesale customers

Wholesale customers for Vermont producers include, in order of frequency, residential customers, retail stores, builders, sawmills, landowners, furniture makers, loggers, concentration yards/log brokers, non-residential customers, energy producers, lumber brokers and a variety of other types of wholesale customers such as building supply stores, timber framers, interior designers and architects.

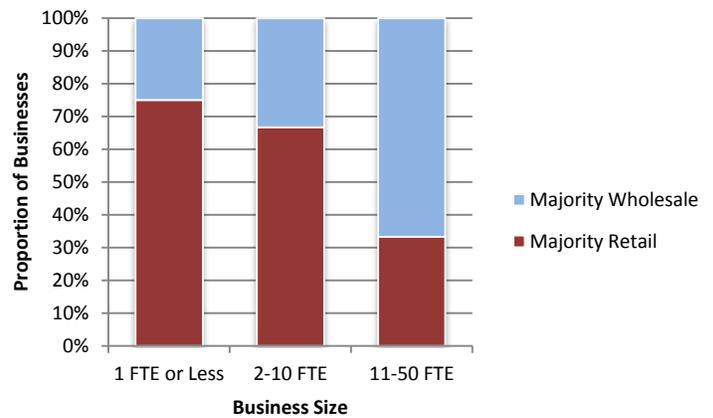
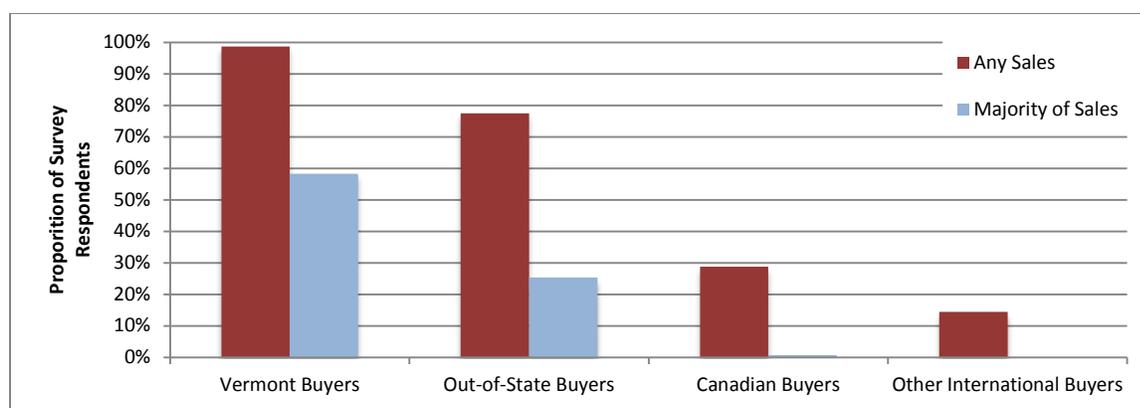


Figure 7: Proportion of Sales to Wholesale/Retail Customers by Business Size

<sup>3</sup> There was insufficient data to determine proportion of sales to retail and wholesale customers with more than 50 employees, but it is highly likely that businesses of this size will be selling primarily to wholesale customers.

The types of markets businesses sell into are also extremely varied in scale, scope, and location. The survey found that goods and services from all sub-sectors of this industry are sold in Vermont, out-of-state and internationally to Canada and beyond. Most businesses sell into more than one geographic market. While nearly all responding businesses have sales to Vermont customers, the large majority also serve out-of-state customers, more than a third serve Canadian customers and one fifth of survey respondents serve international customers outside of Canada.

The proportion of sales to these types of customers also varies. Only one company reported that the majority (more than 50%) of its sales are out of the country, versus 25% of respondents who reported the majority of their sales are to out-of-state customers. Almost 60% of respondents reported that the majority of their sales are to in-state customers with 31% reporting that all sales are to Vermont customers. The larger the business, the more likely it is to rely, at least in part, on sales out of state. Growing the industry will involve helping firms connect with out-of-state customers. The figure below shows the proportion of survey respondents who reported any sales to each category of customers and the proportion of respondents that reported the majority (more than 50%) of their sales to each category of customer.



**Figure 8: Proportion of Firms with Sales to Vermont, Out-of-State, Canadian and Other International Buyers**

The significance of out-of-state sales varies by sub-sector and business. For example 46% of businesses in the primary wood products sub-sector reported some portion of the sales to Canadian customers and 15% reported sales to other international customers (and only 12% reported 100% of sales to Vermont customers), while only 21% of businesses providing services reported sales to Canadian customers and 6% reported sales to other international customers (with 30% of businesses providing services reporting 100% of customers in Vermont).

For the businesses primarily providing primarily services within the industry, many have to be equipped to work with a range of client sizes. We asked these firms that provide primarily services about their work with small, medium and large clients and asked them to define each of these categories. We interpreted the definitions from their responses as follows:

Small Clients: includes private landowners with less than 100 acres and small woodlot owners.

Medium Clients: includes industrial land owners and private landowners with more than 100 acres.

Large Clients: includes woodlot owners with more than 1,000 acres, mills producing more than 5,000 mbf, and companies with more than 500 employees.

Almost all respondents who provide primarily services report working with small clients, while half work with medium clients and just over a third work with larger clients. On average small clients make up 62% of business for service providers, compared to medium clients that make up 23% of business, and larger clients that make up 11% of business for service providers. The chart below shows the proportion of firms that do any work with small, medium and large clients and the proportion of firms that do the majority (more than 50%) of their work with small, medium or large clients as defined above.

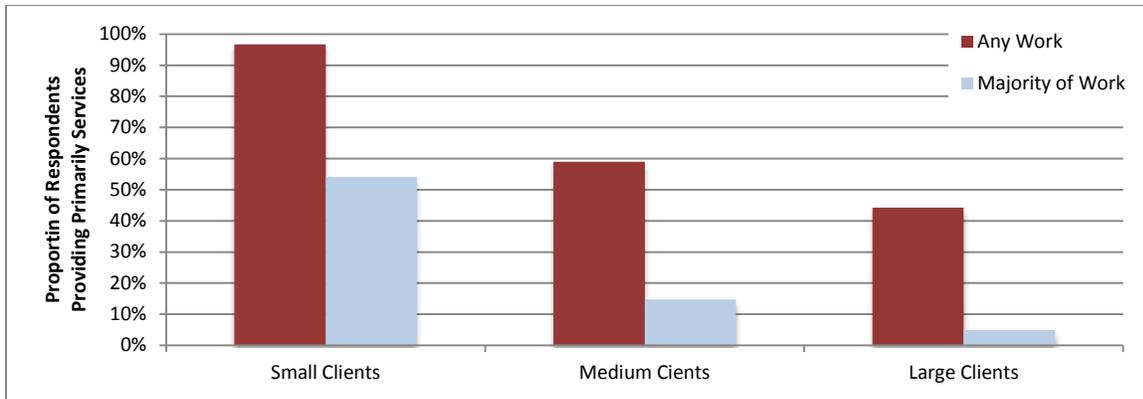
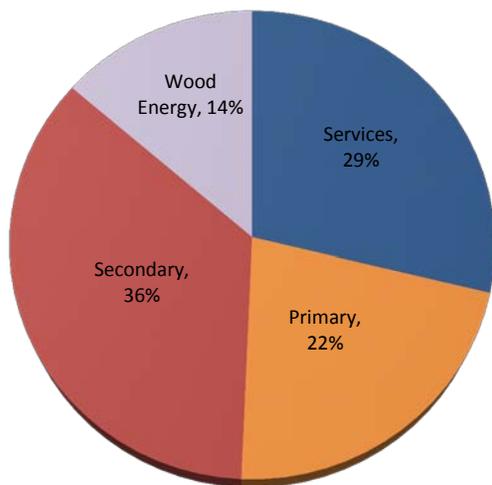


Figure 9: Proportion of Survey Respondents Providing Primarily Services that Work with Small, Medium and Large clients

## Growth Interest, Opportunities & Challenges

Market demand for products and services produced by Vermont’s forestry and wood products industry can be evaluated in a number of ways. Businesses’ expectations with respect to growth and the introduction of new products and services have been addressed in the previous section. Businesses are also being asked to produce more products and new products by their current customers – just under half (47%) of survey respondents reported that they had been asked to produce different products and services than they were currently producing by their customers while 55% had been asked to produce more product and/or different products. Distribution of requests was spread across all four sub-sectors (see table below), with the most requests for more or different secondary wood products, followed by services, primary wood products and wood energy.



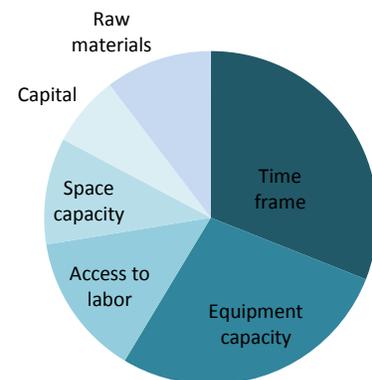
**Figure 10: Proportion of requests for more/different products and services by sub-sector**

While the majority (62%) of survey respondents reported an interest in increasing the volume and/or producing a different mix of products and services, less than a third (31%) of businesses that were asked to produce more product or different products by customers were able to meet that demand. The survey showed that small businesses (with 10 employees or less) were more likely to be able to meet demand for more or different products. Barriers to meeting demand included (in order of frequency): inability to meet demand in required time-frame, lack of equipment capacity, lack of qualified labor, lack of space capacity, lack of access to raw materials, and lack of capital.

When asked about the investments that would be most beneficial to their businesses, the most common response was “new equipment,” reported by 41% of respondents; “training for workers or management” was also identified as an important investment (20%) as was “new buildings or facilities” (18%). Lack of access to raw materials and skilled labor were also identified as important business needs not being met in Vermont.

**Table 1: Buyer requests for more or new products by sub-sector**

Sub-Sector & Product / Service	# of Requests
<b>Services</b>	
Forestry	13
Sawmill	3
Training	2
Kiln-drying	1
Energy Generation	1
<b>Primary</b>	
Sawlogs	6
Pulpwood	5
Lumber	2
Standing Timber	1
Plywood	1
Pallet	1
<b>Secondary</b>	
Furniture	8
Millwork	6
Woodenware	5
Flooring	4
Construction	2
Engineered Wood Products	1
<b>Wood Energy</b>	
Fire Wood	5
Chips	4
Pellets	1

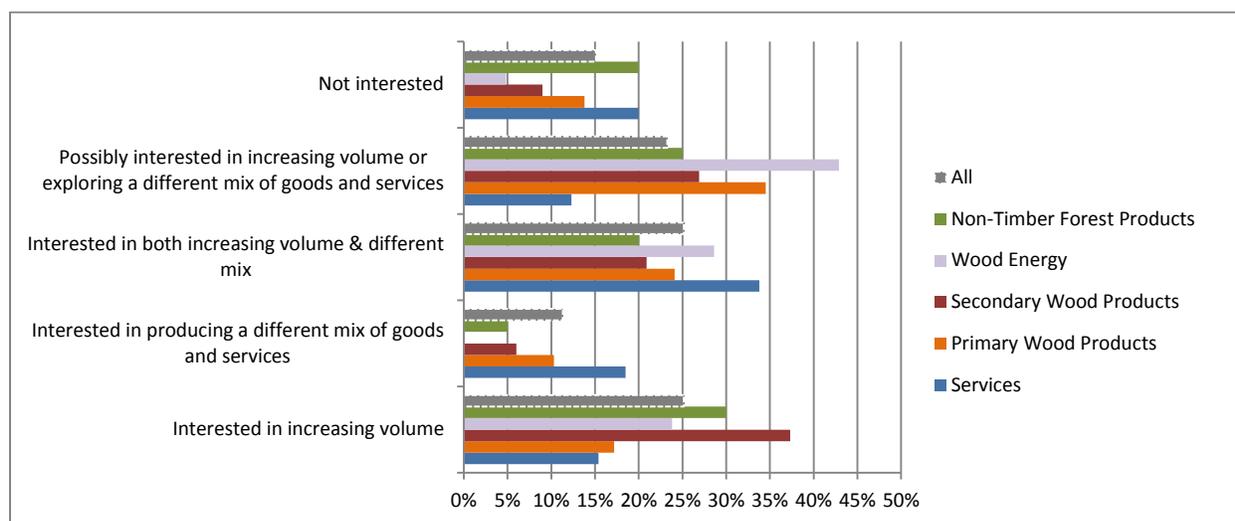


**Figure 11: Barriers to meeting increased demand**

Of the businesses that were able to meet the increased demand from their customers, half met this demand by partnering with other firms in Vermont, a finding that supports the need and desire for businesses to collaborate to take advantage of market opportunities.

## Interest in Growth

As mentioned previously, the majority (62%) of respondents reported an interest in increasing the volume and/or producing a different mix of products and services, with another 23% possibly interested in this type of expansion – leaving only 15% of businesses in the sector not interested in growth. The interest in growth varies by sub-sector, with the greatest interest in growing by volume in the secondary wood products sub-sector (with 37% of respondents in this sub-sector interested in increasing volume) and the non-timber forest products sector (30%). Interest in producing a different mix of goods and services was highest in those businesses providing primarily services (19%).



**Figure 12: Proportion of Businesses Interested in Growth by Sub-Sector**

Businesses producing primarily wood products have a greater interest in growing the volume of their business, with the greatest interest in companies with more than 10 people. Businesses providing primarily services have a greater interest in producing a different mix of goods and services, with interest evenly distributed across business sizes. The larger businesses providing primarily services (those with more 2-50 employees) were much more interested in both increasing volume and producing a different mix of goods and services) than the small businesses in this sub-sector.

The large majority (71%) of survey respondents are interested in increasing their sales in Vermont, including close to 90% of businesses in the primary wood products, wood energy and non-timber forest products sub-sectors, indicating there is strong interest in growing relationships to meet Vermont demand for forestry and wood products. Businesses providing primarily wood products (as opposed to services) also have a strong interest in increasing sales to out-of-state markets (67%), while only a quarter of businesses providing primarily services are interested in increasing out-of-state sales. Survey respondents indicated that interest in increasing sales in, or entering new, international markets was not as widespread; just 11% of businesses expressed interested in entering new Canadian markets and 9% interested in entering other new international markets. Businesses in the wood energy sub-sector have the greatest interest in entering new international markets (22% interested in entering Canadian markets and 16% interested in other international markets), which aligns with the strong international demand for wood pellets.

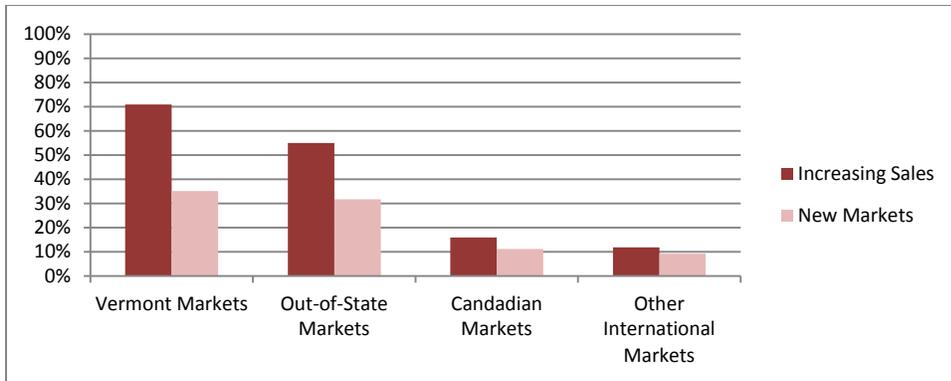


Figure 13: Proportion of Businesses interested in Market Expansion

### Unmet Opportunity for Multiple Businesses

Close to a hundred survey respondents identified market opportunities that would benefit multiple businesses within the industry, ranging from education of consumers and landowners to market development for low-grade wood to new processing facilities.

Identified opportunities were spread across the sub-sectors including many opportunities that would potentially benefit businesses in multiple sub-sectors. The figure at right shows the distribution of opportunities identified by respondents that are relevant to specific sub-sectors. For example 34% of opportunities identified would likely benefit multiple sectors, while 21% were focused on forestry services, and 20% on the primary wood products sector.

Common themes within the identified opportunities included:

- Market development (for low grade wood, Vermont-produced construction materials, high-end residential markets, etc.)
- Marketing (to get Vermont products to market, collective branding, online, etc.)
- Promoting Vermont-sourced and made wood products
- Education (landowners, public, loggers, foresters, benefits of healthy forest for community, workforce, economy, connecting young people with the land/industry, etc.)
- Production facilities (saw mill & dry kiln location and capacity, processing facility for low quality wood, Combined Heat and Power facilities).

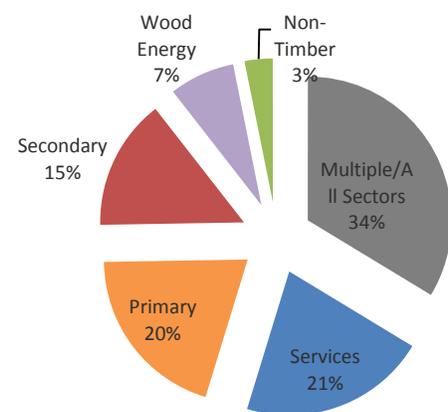


Figure 14: Proportion of opportunities identified by respondents relevant to specific sub-sectors

Opportunities within the services sub-sector included a focus on transportation, harvesting technology, saw mill capacity and invasives management. In the primary wood products sector, the focus was on markets for low grade wood, Vermont-sourced wood and processing capacity. Opportunities within the secondary markets were more varied, as would be expected, with a focus on meeting demand for construction materials with Vermont wood products, value-added production within Vermont and connecting with high-end residential markets. Wood energy opportunities were identified for firewood, wood chips and pellets. In addition to sugar making, pine straw and other non-timber products such as mushrooms, ginseng and ramps were identified with a focus on generating income streams for landowners interested primarily in conservation.

## Barriers and Gaps

Survey results identified strong demand for forestry and wood products and services, an interest in growth by the industry and a wide range of opportunities for meeting unmet demand. The results also identified a range of challenges and gaps that can impede the ability of businesses to meet demand and take advantage of market opportunities.

Gaps are identified as functions that can be filled to improve the sector (e.g. tailored worker training) while barriers are impediments to filling gaps to achieve business growth or meet demand/market opportunities (e.g. constraining regulations). Sometimes filling a gap is insufficient without also addressing one or more barriers; in other situations, addressing a barrier without filling a gap will not produce the desired results.

The primary barriers identified on the survey were related to regulation, followed by wood access or availability of raw material and access to capital. Many survey respondents reported “excessive” or “too much” regulation while others focused on the issues related to worker’s compensation and sales tax specifically as they related to the forestry and wood products industry. Other specific regulatory barriers identified included, *not being able to operate year-round because of restrictive state permits on harvesting, lack of [regulatory] support for harvesting, environmental regulations that increase the cost of land management, lack of licensing for foresters, lag time in responding to permit requests, unstable policy/regulatory environment, policy-supported fragmentation of forest parcels into 25 acre units, and unfair advantages created for out-of-state producers*. Private sector rules such as *restrictions on harvesting in deer yards, and excessive fees for credit card use*, were also named.

Gaps were identified throughout the industry, beginning with public education (value of local wood, benefits of forestry, landowner outreach, public awareness), services for small businesses (business planning, marketing, secondary processing), skilled labor/workforce, access to inputs and equipment/equipment parts, processing infrastructure, transportation and markets for specific products.

The most commonly identified gaps included (in order of mention):

- Infrastructure (saw mills (quality, capacity, location), dry kilns, loss of Rutland Plywood)
- Markets (low-grade wood, pulp, white pine, certified higher grades of wood)
- Labor / Workforces (skilled, qualified, young, loggers, truckers)
- Inputs (logs, panels, white cedar, exotic woods, cherry, walnut, white oak)

Insurance, marketing and transportation are three additional areas where businesses have identified challenges and where additional information is needed to better understand whether these challenges are barriers or gaps. Access to health insurance or a particular type of business insurance may be a gap while the affordability of insurance acts as a barrier. The cost, inefficiency and lack of truckers all act as barriers within the sector while rail infrastructure, trucking capacity and efficiency are all gaps that can be filled within the transportation sub-sector.

Marketing was the most commonly identified challenge throughout the survey, while some businesses reported marketing gaps, such as a lack of marketing expertise, and others reported barriers such as lack of access to inexpensive websites. It is unclear from many survey responses whether they are referring to a gap (a function that can be filled) or a barrier (an impediment to filling a function).

Currently just one-fifth of businesses in the sector report that their marketing efforts are, “extremely successful,” with the majority (65%) feeling their marketing efforts are, “somewhat successful”. Regardless of how successful businesses felt their marketing efforts were, the majority spend 10% or less of their time and resources on sales and marketing. Currently the most common techniques used to establish connections with buyers are word of mouth and personal connections; web sites, trade shows and print media round out the top five techniques. Fewer than 10% of businesses are working on brand development.

## Conclusions

The survey was an effective tool for gathering input from businesses across product categories and serving different functions in the Vermont forestry and wood products supply chain. These survey findings provide insight into the production and market relationships that currently exist and help to identify opportunities and challenges related to market penetration as perceived by Vermont producers.

In an industry that is notoriously hard to engage, the number of responses shows a high level of interest in this project to better understand and support this industry. This is further supported by the 25% of respondents that are interested in further participation in the project and the 83% of respondents that are interested in seeing the results of the survey.



**YELLOW WOOD**  

---

**a s s o c i a t e s , i n c .**

228 North Main Street  
St. Albans, VT 05478  
[www.yellowwood.org](http://www.yellowwood.org)

p: 802.524.6141  
f: 802.524.6643  
[yellowwood@yellowwood.org](mailto:yellowwood@yellowwood.org)