A Socio-Economic Research and Discussion Paper
Southern Region, Ontario Ministry of Natural Resources

1 Linking the Forest

Ontario

LINKING THE *forest* AND THE *factory*

An Analytical Summary of Research into the Wood Purchasing Behaviour of Ontario's Value-Added Wood Industries

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Who Should Read This?

- Value-Added Wood Manufacturers
- Sawmill Managers
- Lumber Distributors
- Economic Development Officers
- Foresters
- Policy Makers

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Linking the Forest Series

These internal resource and discussion papers are designed to reveal topical issues and introduce research focused on the economic and social aspects of the forest and wood processing industries of Southern Ontario. They are distributed internally and as such, do not necessarily represent Ontario Ministry of Natural Resources (MNR) policy.

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Glossary of Abbreviations

MNR	Ontario Ministry of Natural Resources
R^2	Correlation Coefficient is a measure of how well predicted values from a forecast model "fit" with the real-life data.
NAICS	North American Industry Classification System (2002)
COGw	Cost of goods for wood
EWP	Engineered Wood Product (e.g. trusses, laminated beams)
SPF	Spruce, Pine, Fir lumber
MSR	Machine Stress Rated lumber
MDF	Medium Density Fibre panels
OSB	Oriented Strand Board panels

Key Findings

There is an underlying assumption among Ontario's forest industry and the public, that all firms in the province's significant value-added wood industries – furniture, cabinetry, millwork, manufactured housing, engineered wood products and others – all purchase and utilize Ontario grown wood in their products.

However, anecdotal information from these firms suggested that Ontario grown wood in fact, has a minor role in the industry's supply chain. This provoked the question: What is the share of Ontario grown wood among Ontario value-added wood producers? Furthermore, what are the barriers to buying Ontario wood and how is Ontario wood perceived among industrial users?

A research project was launched in the fall of 2004 in an attempt to answer these, and other pertinent questions.

The key results of the study were;

- Overall, Quebec provides more wood to Ontario value-added wood processors than Ontario itself does
- Ontario grown wood is rated as having a variety of strong attributes and characteristics
- Consumers of wood products are not sensitive to the origin of wood used – so producers do not value the origin of wood in their buying criteria
- Other barriers to local consumption include accessibility to Ontario grown lumber due to constraints in distribution and lack of drying or cutting services
- Results suggest that promoting benefits associated with Ontario grown wood would increase local use

Implications of the research suggest strategies to increase the use of Ontario grown wood by local manufacturers, thereby providing more value to Ontario's residents.

Background

Ontario is home to one of the largest and most diverse value-added wood industries in North America.

Employing over 59,000 people and generating more than $11.4 billion in shipments (2002, Statistics Canada, Annual Survey of Manufacturers), these traditional industries process lumber and fibre into furniture, cabinetry, doors and windows, moldings, engineered structural products, converted papers, manufactured homes and many other products used domestically and exported around the world.

Why has Ontario, particularly Southern Ontario, developed into such a wood processing powerhouse? There are several reasons; economic growth during the latter 19th and 20th centuries created a demand for wood products, here and south to an easily accessible U.S. market; the attraction of immigrants with strong wood skills or culture and last but not least, an abundant supply of valuable hardwoods and softwoods.

During the 19th century, land for settlement and farming, plus the continued demand for wood products, depleted valuable tree species, so existing wood manufacturers established new sources of wood supply, particularly from Quebec and the U.S.. Despite the natural regeneration of many species in the latter half of the 20th century, these newly created supplier relationships continued.

Today while most mature 1st and 2nd generation forests are being harvested sustainably, logs and lumber are often exported outside Ontario. Exporting unprocessed wood products means an opportunity is lost to add more economic value to these products, generating more wealth and jobs for Ontario's economy.

To understand these and other issues better, we need to begin by measuring the share of Ontario grown wood used by the Ontario value-added woodworking industry, what barriers exist to it's utilization, patterns of wood purchasing and market perceptions of Ontario wood.

Research Design

After testing the survey with industry and peers, 2,359 questionnaires were sent out in early October, 2004 to all Ontario based value-added wood manufacturers categorized by the North American Industry Classification System (NAICS) provided in a commercial database. The survey was a mail-out, fax-back design, with a user option to e-mail or post back the results.

The survey had 13 main sections covering a total of 70 specific opportunities to answer;

A. Business Information
B. Products Manufactured
C. Product Markets – where
D. Wood Species Used
E. Wood Materials Purchased
F. Wood Suppliers
G. Supplier Ratings
H. Remanufacturers
I. Perceptions of Ontario Wood
J. Image of Ontario Wood
K. Residues – disposition of
L. Purchasing Criteria
M. Open Comments

Within three weeks 245 completed surveys were returned, equal to a 15% response rate, after adjusting for database errors and unacceptable responses. The data was input into an Access database and analyzed first by size of firm, and secondly by NAICS industry code.

The first method proved statistically insignificant with a correlation coefficient, R^2, averaging 2.3% in 80% of the sample. The sample was adjusted downwards slightly to eliminate anomalies and analyzed by NAICS code producing a 91% R^2 coefficient.

After combining sales data in the database with research results for wood utilized by subsector, an extrapolation process was used to provide an estimation of wood utilization for the entire corporate database, providing an overall industry estimate of total wood origin, species, material usage and distribution buying behaviour characteristics.

Results

I. OVERALL DATA INTEGRITY

Generally the data fit well with our intuition of how each industry operated, meaning that as the homogeneity within each subsector increased, so did the R^2 coefficient factor. For example the production of panels share common products and processes, as does factory housing, doors and windows and pallets and crates – and so all resulting R^2 coefficients from the data results are high. However the diversity of product types within 'furniture', 'miscellaneous wood products' and 'other millwork products' provide a wider range of responses lowering the statistical integrity of the data. Fortunately, the overall results had high statistical level of integrity with R^2 equal to a 91% correlation coefficient.

The results by wood utilization within each industry sub-sector were also intuitively correct. The COGw (Cost Of wood Goods) figure in Table 1 illustrates the cost of goods as a % of total sales. The higher the figure, the higher the use of wood in the end product, or the lower the cost of other factors of production, such as labour and overhead.

For instance producing windows today often uses vinyl and metal clad wood parts, so the use of wood is lower and the cost of labour is high because the nature of that market demands a high degree of customization – therefore the cost of wood goods in that industry would be low – in this case the COGw is only 3.4%. Pallets and crates on the other hand use 100% wood parts and relatively unskilled and therefore less expensive labour to assemble these parts – so a COGw of over 60% is acceptable.

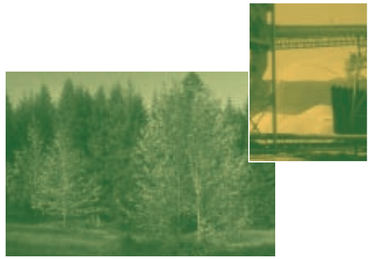
The 'other millwork' category also has a high COGw because most of these products are solid wood only. Products like flooring, moldings and stair railings use a lot of machining, reducing the labour component of total costs, ultimately raising COGw.

Within cabinetry, while we would expect the cost of materials relative to the labour component to be low, the COGw results from the research (i.e. 0.8%) is likely too low. However, this could be explained by a high degree of customized product with very high values relative to materials used, such as kitchen cabinets.

Furniture, boards & panels and miscellaneous wood products fit into a typical range of cost of materials for products, such that overhead and labour make up about 50%-75% of total goods costs.

Table 1: Cost of Wood Goods (COGw) by Industry Type

NAICS Code	Industry Type	R^2 Coefficient	Sales $m	Volume m3	COGwood @$300/m3
3212	EWP/Boards	98%	5.8	4128	21.5%
321911	Door & Windows	100%	55.2	6191	3.4%
321919	Millwork	44%	128.0	189235	44.4%
321920	Pallets	99%	80.8	167836	62.3%
321999	Misc	17%	16.7	6054	10.9%
337110	Cabinets	28%	99.3	2625	0.8%
337123-215	Furniture	23%	100.7	68588	20.4%
321992	Mfd housing	94%	3.5	607	5.3%
ALL	NAICS	91%	–	–	–



II. SOURCES OF WOOD

As discussed, one of the major objectives of the study was to determine the share of Ontario grown wood used in Ontario value-added wood industries. Participants were asked to estimate the breakdown of their supply of wood product by source – specifically between Ontario, Quebec, Alberta, B.C., U.S. and 'Other' sources. These estimates were applied against utilized volume (m3) estimates from the survey.

The results are shown in Table 2 below and summarized in Graph 1. The key result is that Ontario's value-added wood industries only utilize 38.1% Ontario grown wood in their operations vs. 41.5% for Quebec wood.

Other sources of wood going into value-added wood manufacturers are American (15.1 %), with a small percentage coming from Western Canada and other sources. Only a small group admitted they were unaware of the source of their wood.

From a sub-sector perspective, the results range dramatically, although no particular source of wood fell below 30%. The lowest Ontario grown wood users tend to be grouped into structural wood users – engineered wood products, millwork, pallets and factory housing (averaging 32.2%), while the highest using group falls into household products such as furniture, cabinets and a variety of smaller items such as household utensils.

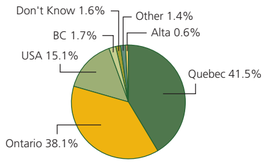
Key points in this section

- Share of Ontario grown wood utilized by Ontario's value-added wood is 38%
- Major competitors for Ontario grown wood are Quebec & U.S.
- Manufacturers of structural wood products tend to use less Ontario grown wood while producers of household wood products used more
- Availability, price and quality were all ranked as relative strengths for Ontario wood

Table 2: % Wood Source By Ontario Value-Added Wood Industry

NAICS		Ont	Que	BC	USA	Alta	Other	Don't know	Total
Code	Industry	%	%	%	%	%	%	%	%
321215	EWP/Boards	30.5	62.2	0.4	3.0	1.4	2.5	0	100
321911	Windows & Doors	35.0	15.0	0	0	0	0	50.0	100
321919	Oth. Millwork	32.7	13.6	0.0	48.7	0	1.4	3.5	100
321920	Pallets	31.1	61.2	5.1	0.2	0.2	0.6	1.7	100
321999	Misc. Wood	92.0	5.5	0.1	0.3	0.1	0	2.0	100
337110	Cabinets	76.8	23.1	0	0	0.0	0	0.1	100
337123-215	Furniture	66.2	13.5	1.6	17.6	0	0	1.1	100
321992	Mfd Housing	31.6	37.2	22.8	0	8.4	0	0	100
	TOTAL	**38.1**	**41.5**	**1.7**	**15.1**	**0.6**	**1.4**	**1.6**	**100**

Graph 1: % Wood Source Used In Ontario Wood Industry



The use of Ontario wood is extremely high in the miscellaneous wood industry (92%), understandable since the cost of transporting wood from other markets would dramatically effect the price of these often lower value, easy to produce products.

The results also show unique trends where imported woods have a natural affinity in certain businesses. For instance, high proportions of American hardwoods are used in the furniture and flooring industries, but very low usage in all other NAICS categories. At least two direct interviews with furniture manufacturers suggested that Ontario was currently being 'flooded' with high quality U.S. hardwoods at bargain prices, particularly with the recent rising value of the C$. Also, the demise of the domestic U.S. furniture industry during the last decade is driving down U.S. hardwood prices.

Similarly B.C. and Alberta sourced wood have high utilization in factory housing, where structural characteristics associated with Western species are important.

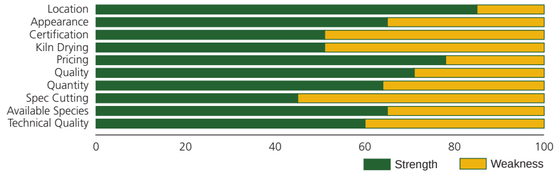
With a provincial value-added industry share of 38% for Ontario grown wood, one might conclude that there are either inherent barriers in the acquisition of regional lumber, uncompetitive prices, or both for Ontario grown wood. According to the survey results though, this may not be the case.

Question 3, Section 'I' of the survey, asked participants to rank various Ontario wood attributes as either a perceived weakness or strength. The results are shown in Graph 2 below.

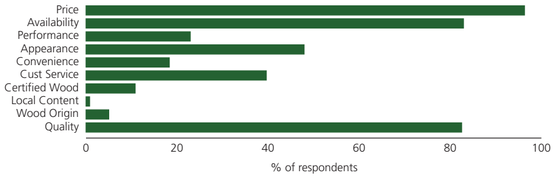
Note that survey participants ranked both supply availability and price as relative strengths for Ontario wood. Overall, in fact, the survey results suggest that Ontario wood does not have any significant market access issues or pricing barriers. However, capacity within the commodity (sawmill and wholesale) sector to kiln dry, performing specification cutting and certified wood offering was lower (50 – 55% rated them weaknesses) than other attribute ratings, suggesting that a lack of lumber services could be a manufacturing barrier to using local wood.

Similarly, Section 'L' of the survey, asked what their firm's top 4 purchasing criteria was regardless of the wood's origin. Again there was no surprise. Over 96% of respondents indicated that price was their key criteria, although over 80% ranked availability and quality as their second and third choices. The fourth ranking illustrates once again that after the physical attributes of the wood,

Graph 2: Ranking of Ontario Wood Attributes



Graph 3: Purchasing Criteria Ranking



customer service plays an increasingly important role in the purchasing decision equation.

The results of purchasing criteria ranking are illustrated in Graph 3 below. Note that both 'wood origin' and 'local content' received the least importance on the ranking.

III. SPECIES UTILIZED

Analyzing wood species utilization by wood industry was also a useful result of the survey. Broken into softwoods and hardwoods, the following graph indicates the relative distribution of major wood types between value-added processing sectors.

Distribution of softwoods and hardwoods vary considerably between product and industry subsector, although the total mix is a 42:58 split in favour of hardwoods.

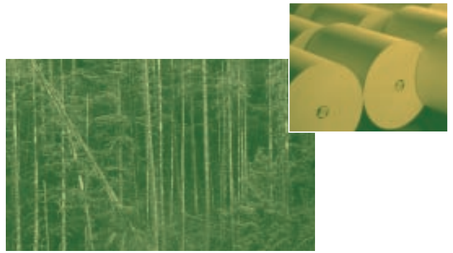
Europeans often make an interesting wood distinction categorizing wood usage as either 'living with wood' or 'building with wood'. In North American terms, 'living with wood' refers to industries like furniture and flooring, and are dominated by hardwoods. 'Building with wood' industries are softwood dominated where costs are often a critical factor to success.

Softwoods

Based on the Total column in Table 3, the most softwood intensive industries are structural products, or 'building with wood' categories, such as windows & doors, factory housing, pallets and miscellaneous wood firms that utilize up to two-thirds of all softwoods used. Softwoods tend to be found in products where the appearance of the products is not of critical importance (e.g. pallets) but where low price is important.

Key points in this section

- Ontario based wood firms use use hardwoods over softwoods by a ratio of 3:2
- Softwoods dominate structural wood products like factory housing and millwork
- Hardwoods are most often used in household products like cabinets and furniture
- Trends in species used in visible applications tend to be towards lighter woods – maple, poplar and birches



Graph 4: Softwood vs. Hardwood Mix by Industry

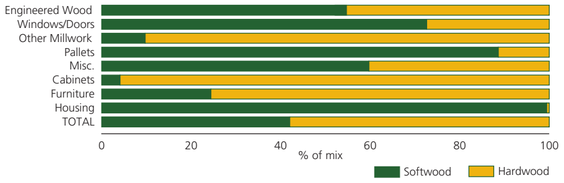


Table 3 also summarizes industry use of various softwood species. The most widely used product is SPF (Spuce-Pine-Fir lumber) at 66% of all softwoods, followed by spruce at 22%. Almost 88% of softwoods consumed by value-added industries in Ontario were northern species used in factory housing, pallet and engineered wood products.

Southern softwood species, like Eastern White Pine, Cedar and Red Pine, have very small value-added shares, although they are often found in furniture and miscellaneous product categories. Respondents claimed a very small use of Douglas Fir and Yellow Pine under the 'Other' category.

Hardwoods

The value-added wood industry in Ontario uses more hardwoods than softwoods and several more species. Product types that are the most hardwood intensive are 'living with wood' subsectors including cabinets, millwork (flooring, staircase parts, moldings, etc.) and furniture. Unlike softwoods, hardwoods are used in highly visible and structural product areas since appearance and strength are critical to market success. All together 58% of all the wood utilized by Ontario based wood processing businesses, are hardwoods.

There are three dominant hardwood species used by value-added wood industries – poplar, maple and oak where the latter two are almost equal in volume of product usage. However poplar is the highest used hardwood in Ontario, although half the consumption is used in board and EWP production. Except for prefab housing, poplar is used in every single wood industry category. Unlike other hardwoods, poplar is relatively plentiful and inexpensive, but it's light colour is *popular* among consumers in everything from furniture, flooring, cabinets and moldings.

For the same reasons, hard maple is also in high demand, particularly in cabinetry and furniture (almost 60% of all maple usage). Red oak on the other hand seems to be falling in popularity, but is still used in kitchen cabinet applications and various styles of furniture (e.g. heritage and mission styles). With increased offshore competition and with consumer tastes moving towards tighter grains and lighter colours, red oak is losing its greatest share in flooring products.

Table 3: % Softwood Species Use by Industry

NAICS Code	Industry	Pw %	Sp %	Pr %	Cedar %	SPF %	Other %	Total %
321215	EWP/Boards	0.7	15.7	0.1	0.0	28.7	0.0	45.2
321911	Windows& Doors	70.5	0.4	0.1	0.7	0.9	0.0	72.6
321919	Oth. Millwork	5.2	0.7	2.6	0.9	0.2	0.2	9.7
321920	Pallets	0.9	8.2	0.3	0.1	79.2	0.0	88.6
321999	Misc. Wood	2.8	9.1	0.8	44.7	2.0	0.0	59.7
337110	Cabinets	2.3	0.0	1.8	0.1	0.0	0.0	4.1
337123-215	Furniture	16.3	0.0	0.1	6.2	0.0	1.6	24.4
321992	Mfd Housing	6.3	60.3	0.0	0.2	32.6	0.0	99.4
	TOTAL	**3.6**	**9.1**	**0.9**	**0.7**	**27.6**	**0.2**	**42.0**

Many smaller producers listed infrequent or exclusive use of exotic species such as mahogany, banak, hickory, beech, teak and butternut. Most products used with exotic species were higher-end furniture.

All other species – birch, ash, walnut and cherry – are rarely used except in specific applications, usually influenced directly by market price. One exception is basswood which seems to be gaining increased use in solid wood moldings (see Millwork, Table 4).

Cross-referencing this data with the earlier *source* data reveals that while many hardwood species are indigenous to Ontario, producers of wood products are sourcing hardwoods from the U.S., particularly oak, ash and the more rarer species like cherry and walnut. Some respondents indicated that there were some quality issues that were a barrier to using Ontario woods, such as 'grey-streaking' in indigenous red oak, unapparent in American red oaks.

IV. MATERIALS UTILIZED

Another aspect of the wood consumed by the value-added wood industry, is the type of material, or form in which the wood is used in the firm's production process. As illustrated in Tables 5 and 6 these can be divided into solid wood and composites – the latter of which is most often produced in the form of panels.

Key points in this section

- Solid wood materials, mostly raw lumber, makes up more than 80% of all value-added wood inputs, transcending most subsector categories
- MDF and OSB composities make up more than 50% of all composite inputs

Table 4: % Hardwood Species Use by Industry

NAICS	Industry	Mh	Bw	Po	Or	Aw	Cherry	Bass wood	Walnut	Exotic	Total
Code		%	%	%	%	%	%	%	%		
321215	EWP/Board	0.9	1.6	51.5	0.4	0.4	0.0	0.0	0.0	0.0	54.9
321911	Windows& Doors	2.6	0.6	3.6	5.9	0.5	0.1	0.0	14.2	0.0	27.4
321919	Millwork	23.7	0.4	15.5	26.6	4.8	2.1	10.7	1.1	5.4	90.3
321920	Pallets	3.4	2.1	2.5	2.0	1.2	0.0	0.0	0.0	0.2	11.4
321999	Misc	16.2	2.3	10.4	2.3	1.9	0.9	1.6	2.2	2.6	40.3
337110	Cabinets	34.3	15.0	3.3	25.0	0.4	17.5	0.0	0.1	0.1	95.9
337123-215	Furniture	23.5	2.1	3.9	20.5	0.8	10.6	0.0	6.8	7.5	75.6
321992	Mfd Housing	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.6
	TOTAL	**9.8**	**1.4**	**27.6**	**9.7**	**1.9**	**1.4**	**3.1**	**0.8**	**2.2**	**58.0**

Solid Woods

Solid wood material used by the wood processing industry makes up more than 80% of all wood material type purchased (Table 5). In fact almost 60% of all wood purchased is in the form of raw lumber. Dressed lumber, often purchased through retail channels, has low usage, indicating that manufacturers tend to value preparing wood themselves, choosing not to incur the additional costs of pre-dressed lumber when part of the dressing may be lost or refined again during their inherent production process.

Large users of solid wood include all categories except for cabinetry and factory housing, which intuitively uses more composite panels. Nevertheless, solid wood producers tend to transcend both the 'living with wood' and 'building with wood' designations, described in Section III.

Composite Wood

Table 6 on the next page illustrates the low penetration (17.6%) that composites have in the value-added wood industry. Panels are dominated by three main types; plywood, chipboard and the 'other' category. When designing the survey we inadvertently left off OSB and MDF products as potential panel categories, but respondents reminded us that these products were popular within the structural and cabinet producing industries.

Some respondents may have confused chipboard with OSB products or included them in the 'other' category. For example, OSB is very popular in residential building markets, but none of the factory housing respondents indicated the use of OSB, although 45% of all chipboard use was in that sector. We feel that a terminology issue may have under-represented OSB and possibly over-represented chipboard in the results, represented in Table 6. Likely the case, MDF and OSB together make up more than 50% of the composites used in the value-added wood industry.

Table 5: % Solid Wood Material Used by Industry

NAICS	Industry	Raw Lumber	Retail	SpecCut	Veneer	MSR	Other Solid	Total Solids
Code		%	%	%	%	%	%	%
321215	EWP	4.9	2.6	18.8	2.4	2.7	46.6	78.0
321911	Windows& Doors	1.6	0.2	68.3	0.1	1.0	0.2	71.4
321919	Millwork	84.5	1.2	7.1	0.8	0.2	1.0	94.8
321920	Pallets	85.0	7.0	3.4	0.1	0.4	0.6	96.3
321999	Misc	28.1	54.9	12.8	0.2	0.2	0.4	96.6
337110	Cabinets	6.7	9.3	18.6	7.1	0.0	0.9	42.6
337123-215	Furniture	25.4	9.6	14.5	9.0	0.0	4.5	63.0
321992	Mfd Housing	0.6	2.8	17.4	0.1	4.4	6.2	31.5
	TOTAL	**36.5**	**3.5**	**22.6**	**1.6**	**1.3**	**16.9**	**82.4**

V. DISTRIBUTION

Another objective of the research was to analyze distribution channels the value-added wood industry buys their raw material from. An original hypothesis was that wholesalers and brokers were unable to provide wood origin data due to centralized sorting processes. In other words, since wholesalers buy from various jurisdictions, lumber inventories get mixed together making it difficult to track the origin of the lumber, not to mention fulfilling specific requests.

While this hypothesis may have some influence on user access to wood origin information, the research illustrated that the overwhelming form of distribution (see Table 7) were sawmills, most of which know the origin of their lumber.

One interesting industry-to-distribution relationship is based on the overall volume of wood used and number of wood materials employed. Producers who use 'large volume-single product- single species' tend to purchase directly from sawmills – i.e. pallet, panels, engineered structural products and the 'miscellaneous' wood subsectors. On the other hand, higher valued 'multi product-multi species-multi material' industries – i.e. furniture, manufactured housing and millwork – often use wholesalers with specific services, likely to streamline their procurement process.

Brokers vary from wholesalers in that they do not actually own the lumber within the supply chain process, but rather act as intermediaries working on behalf of a manufacturer to obtain a predetermined amount, or quality of wood, at a certain price point.

Key points in this section

- Over 50% of all wood value-added processors, usually those with simple inputs, purchase their wood directly from sawmills
- Over a variety of performance measures, respondents rated wholesalers as providing the best and widest range of services

Table 6: % Composite Material Used by Industry

NAICS	Industry	Plywood	Particle	Chipboard	Laminate	Other Comp.	Total Composites
Code		%	%	%	%	%	%
321215	EWP	0.1	0.0	0	0	21.9	22.0
321911	Windows& Doors	9.8	0.1	18.5	0.1	0.1	28.6
321919	Millwork	3.5	1.6	0.0	0.1	0	5.2
321920	Pallets	3.1	0.2	0.2	0	0.1	3.6
321999	Misc	2.5	0.9	0	0.0	0	3.4
337110	Cabinets	13.4	22.3	1.3	16.5	3.8	57.3
337123-215	Furniture	13.3	14.1	0.2	8.4	1.0	37
321992	Mfd Housing	20.3	0	45.4	2.8	0	68.5

Remanufacturers, also typically do not 'own' the lumber they work with, but unlike brokers they add services to the product, such as cutting, shaping or drying wood into an intermediary product. Only a small percentage of wood manufacturers said they used remanufacturers, although a large number (over 25%) stated they 'expected to use remanufacturing services in the future'.

Some 'remanufacturers' suggested that there is also a trend towards having them source the wood, do some primary processing and then provide this intermediary product to the value-added manufacturer. As in other industries, end product producers are outsourcing selected production processes.

The retail distribution channel was hardly used, except in the case of 'miscellaneous' wood producers who have small volumes that do not warrant establishing suppliers. The 'other' category consisted mostly of self-harvesting and direct dealings with loggers.

In addition to Table 7, survey respondents were asked to 'rate' wood suppliers on various attributes. These included sawmills, brokers and wholesalers and the results are in Table 8. The results are close, but wholesalers tended to lead or tie in every category.

In summary, wholesalers generally provide a wider range of services, while remaining price competitive. On the other hand, sawmills scored worst on customer service and flexibility explaining why several respondents commented that sawmills are increasingly unable to compete with wholesalers.

In addition to not offering as many services, sawmill owners often lack the marketing skills needed to develop value-added customers, forcing them to sell to wholesalers.

Table 7: % Distribution Type by Industry

NAICS	Industry	Broker	Retail	Sawmill	Wholesale	ReMfr	Other
Code		%	%	%	%	%	%
321215	EWP/Boards	28.9	0.0	69.0	2.1	0	0
321911	Windows& Doors	47.5	0.1	18.5	31.4	2.4	0.1
321919	Millwork	12.1	0.1	42.1	39.3	5.3	1.1
321920	Pallets	18.1	4.3	61.5	12.7	3.0	0.5
321999	Misc. Wood	1.5	9.6	51.2	29.0	8.6	0
337110	Cabinets	0	0.1	4.7	53.2	42.0	0
337123-215	Furniture	7.3	0.1	12.8	49.5	25.3	5.0
321992	Mfd Housing	41.1	4.5	3.9	47.9	2.8	0
	TOTAL	18.2	1.3	51.2	23.2	5.2	0.9

Table 8: Ratings of Lumber Producers (out of 5.0)

Attribute	Distributor	AVG Rating
Wood Product Knowledge	Sawmill	4.0
	Broker	3.8
	Wholesaler	4.0
Customer Service	Sawmill	3.7
	Broker	3.8
	Wholesaler	4.1
Meet Spec Cutting Needs	Sawmill	3.7
	Broker	3.5
	Wholesaler	3.7
Meets Drying Needs	Sawmill	4.0
	Broker	3.8
	Wholesaler	4.1
Price Competitiveness	Sawmill	3.7
	Broker	3.6
	Wholesaler	3.8
Quantities of Wood Available	Sawmill	3.6
	Broker	3.4
	Wholesaler	3.7
Quality of Wood Available	Sawmill	3.7
	Broker	3.7
	Wholesaler	3.7
Flexibility meeting requests	Sawmill	3.5
	Broker	3.6
	Wholesaler	3.7
Use of Advanced Technologies	Sawmill	3.5
	Broker	3.4
	Wholesaler	3.6

VI. OTHER PERCEPTIONS

Besides the results shown and analyzed in sections I to V, the survey also inquired about the perceptions of Ontario grown wood, image of Ontario grown wood, certification and branding. Those specific questions and an analysis of their accompanying responses follows;

a) Is there a lack of information or promotion of Ontario grown wood? (Section I, Question 2)

43% (98) of all respondents who answered agreed that there was a definite lack of an awareness of Ontario wood and the associated benefits of buying locally grown wood Another 34% answered that they were unsure.

b) Do your customers care where the wood in your products is grown? (Section J, Question 2)

With respect to perceived barriers to buying Ontario grown wood, the response to this question may be the most revealing of the whole survey. Out of 223 accepted responses, only 25 value-added wood manufacturers claimed that their customers cared where the source of the wood in their final product came from. This is consistent with the response to purchasing criteria discussed in Section III.

c) If local wood was branded 'Grown in Ontario' would it influence your purchasing decision? (Section J, Question 3)

Of 205 respondents, 74% said that a branding strategy would not influence their decision to buy Ontario wood. However a full 25% did state that such a strategy would make them purchase more Ontario grown wood, although the additional amount was not quantifiable.

d) Is using 'certified' wood in your products becoming increasingly important? (Section J, Question 4).

Some respondent comments indicated there was confusion over what was meant by 'certification'. Many respondents seemed to think it may have referred to ISO certification, whereas the original intent of the question was to measure the effect on wood coming from Ontario's independently certified forests. Like consumers, it seems some wood producers are not familiar with the concept.

Only 29% agreed that certification was becoming increasingly important as a marketing tool, although another 25% admitted they were not sure of the impact.

VII. OTHER BARRIERS

So far the survey results have identified three possible barriers to why value-added wood manufacturers in Ontario, may not purchase more Ontario grown wood;

- lack of consumer sensitivity to wood origin
- lack of promotion and information about benefits of Ontario grown wood
- possible lack of lumber preparation services, e.g. specification cutting

During one-on-one interviews with selected value-added wood firms and from a 'comments' section at the end of the questionnaire, respondents were also asked to list other possible issues around obtaining Ontario grown wood. Issues discussed included;

- best grade lumber is exported to foreign markets
- cannot consistently locate origin information on lumber and other forestry products
- some Ontario sawmills cater to large quantity purchasers and may refuse to sell to small-medium sized manufacturers
- large box retailers also commit to large quantities of lumber, reducing availability, and often quality, to local manufacturers
- other Canadian jurisdictions, including the U.S., are shipping low cost lumber (SPF) into Ontario, undercutting prices from local mills

Interestingly, many of the barriers to using locally grown wood, can be sourced back to Ontario based issues, predominantly marketing related practices. On the other hand, there is nothing to suggest that markets are being artificially distorted. In fact, one could argue that larger lumber producers are simply attempting to lower their selling costs by taking advantage of their large scales of production. However, 'price' was only mentioned once as an issue, so there may be an opportunity for some lumber producers to increase margins by seeking out niche value-added user markets where the price of wood is secondary to quality and accessibility.

Finally, it seems that the level of communication between these two large wood based sectors, commodity and value-added, needs to improve to mutually benefit each other through more efficient channels of distribution and the development of unique new products and services.

Strategic Implications

The study met its objectives – identifying the share of local wood used in the value-added wood industry; identifying barriers to purchasing Ontario grown wood and generally gaining a better understanding of a hidden sector unrepresented by a single advocacy group – clearly a shortcoming in itself.

To use this research information strategically, we must assume that Ontarians would be better off if its value-added wood manufacturers used more Ontario grown wood. For example, the economic multiplier associated with producing a higher valued product from a scarce, albeit sustainable, resource would increase jobs and wealth in the province. Producing higher valued wood products would expand Ontario's international markets and improve our balance of trade. Existing lumber producers could expand into new value-added markets, exposing them to fewer border disputes caused by trading commodity based forest products. Transporting more lumber less distance would improve bottom lines and be environmentally responsible. Some private woodlots would be managed better, and be less endangered, if they were economically sustainable in a stronger 'local wood' economy. The concept of using more local wood more efficiently seems to have a number of positive socio-economic and even ecological benefits.

As food for thought, the following strategies are aimed at policy influencers both within industry and government.

1. Develop an 'Ontario Wood' brand:

Clearly identifying lumber that is grown in the province would assist wood resource users in distinguishing Ontario lumber from other sources, potentially providing new standards for quality and other characteristics. This concept could be dovetailed strategically with efforts to certify Ontario's wood resources, both crown and private.

2. Develop a 'Buy Ontario' program:

Once branded, an industry/government partnership could promote the use of Ontario grown lumber to the value-added wood industry and beyond to the public. The key message would be based on the socio-economic benefits – wealth and new job opportunities – associated with using locally grown wood. An increase in the share of Ontario-grown wood in the province's value-added industry, would also mean new jobs in the primary and commodity sectors.

3. Improve forest sector integration:

One of the inherent barriers to developing Ontario's forest resource is the lack of integration between Ontario's value-added wood manufacturers and the province's forest product industry. The lack of communication between these two sectors has been noted in several other consulting reports. The benefits that would occur on the sawmill side would be improved technology transfer and new domestic markets. On the value-added side, improved supply chain integration would lower distribution costs and send signals to land managers about future market requirements providing new opportunities for private land owners.

4. Services capacity study:

Prepare a study that measures the kiln-drying, spec cutting and remanufacturing capacity in the province and identify gaps. Based on feedback from this survey, new entrepreneurial opportunities may exist in parts of Ontario, either independently or through existing mill operations. Building local services capacity will help keep Ontario wood in Ontario.

The ultimate test of whether Ontario wood share can be influenced by programs like this, would be to re-measure the share of Ontario grown wood by re-issuing Sections D, E and F of the survey, five years from now.