

Overview of Wisconsin's Value-Added Wood Manufacturing Industry



The value-added wood manufacturing industry, also known as the secondary wood manufacturing industry, includes firms that use primary wood products such as lumber or veneer to produce higher value products. These products include flooring, cabinets, millwork, furniture, sporting goods, doors, windows, roof trusses, wall panels, and other building materials. In Wisconsin, the industry includes more than 800 establishments, employs more than 20,000 workers, and generates a direct economic impact of \$3 billion^{1,2}

A survey of the Wisconsin value-added wood industry was conducted in 2018 to better understand the current economic impacts, markets, and needs of this industry. The survey results are presented in this document. The survey was sent to 507 businesses across Wisconsin. In total, 205 responses were received. After removing undeliverable addresses and closed businesses from those contacted, the adjusted response rate for the survey was 51 percent.

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¹ Impact Analysis for Planning 2016; ² <https://www.jobcenterofwisconsin.com/wisconomy/query>

“What type of manufacturers make up the industry?”
Manufacturer demographics and types of products produced

Table 1. Wood products manufactured by Wisconsin companies (n=201)
 (companies could choose multiple responses)

Wood Product	Respondents	Percentage of Total
Millwork	66	32.8%
Architectural Woodwork	62	30.8%
Cabinets	59	29.4%
Furniture	55	27.4%
Hardwood and Softwood Lumber	47	23.4%
Hardwood Dimension Components	41	20.4%
Flooring	31	15.4%
Laminated Counters & Laminated Other	28	13.9%
Containers, Crates, Pallets or Skids, Pallet Parts	27	13.4%
Wood Doors and Windows	23	11.4%
Crafts, Models, Toys, Picture Frames, & Sporting Goods	19	9.5%
Firewood, Fuel Logs & Pellets	14	7.0%
Roof Trusses & Laminated Beams	14	7.0%
Patterns	14	7.0%
Particleboard, Plywood & Panels	12	6.0%
Blocking	11	5.5%
Fencing	7	3.5%
Partitions & Fixtures	7	3.5%
Veneer	7	3.5%
Boats and Ships	2	1.0%
Caskets	2	1.0%
Lathe and stakes	1	0.05%

Manufacturer demographics consisted of 163 firms with a single facility and 27 with multiple facilities that responded to the survey. Of responding companies, 20 had additional production locations outside of Wisconsin. The majority of responding companies (66%) had fewer than 25 full time employees and produced less than \$5,000,000 annually (Figure 1). Companies ranging from 25-99 employees (22%) reported sales from \$1,000,000 to \$50,000,000. Only 12% of respondents had more than 100 employees. Most respondents identified as millwork manufacturers (n = 66 firms), architectural woodwork manufacturers (62), followed by cabinets manufacturers (59), and furniture (55) (Table 1). Some of the respondents indicated that their companies were identified as more than one manufacturer type. Other products manufactured by respondents included: pressure treated lumber, beehives, birdhouses & feeders, partitions & fixtures.

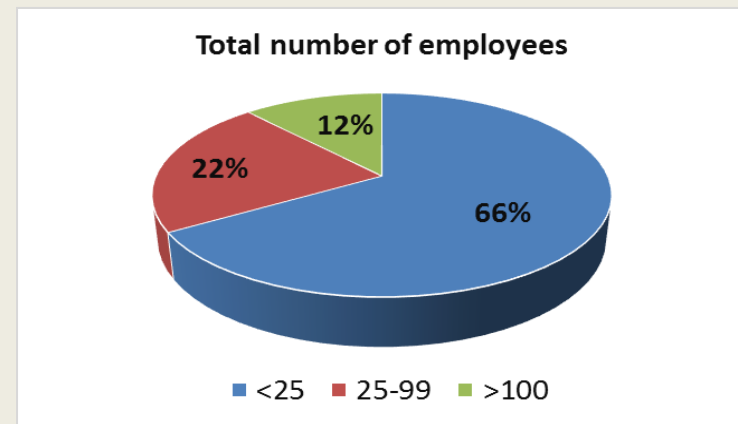


Figure 1. Total number of employees by survey respondents (n=194)

“What wood products do value-added manufacturers use?”

Types of wood products and lumber species purchased

The most commonly purchased wood products were hardwood lumber, plywood, hardwood dimension components, softwood dimension lumber, and fiberboard or medium density fiberboard. Other products purchased by respondents included: sawdust, wood shavings, urban wood (Figure 2).

Of the companies that purchased lumber, the top hardwood species purchased were red oak, hard maple, cherry, white oak, and soft maple. These hardwood species were primarily used in cabinets, millwork, furniture, flooring, container and pallet manufacturing. The main softwood species used in manufacturing were eastern white pine, Douglas fir, western red cedar, southern yellow pine and red pine. Companies purchasing eastern white pine included: window and door manufacturers, millwork, and furniture makers. Other softwood species were used in manufacturing of roof trusses, laminated beams, containers, pallets, and fencing.



Figure 2. Wood products purchased by responding companies (n=180) (companies could choose multiple responses)

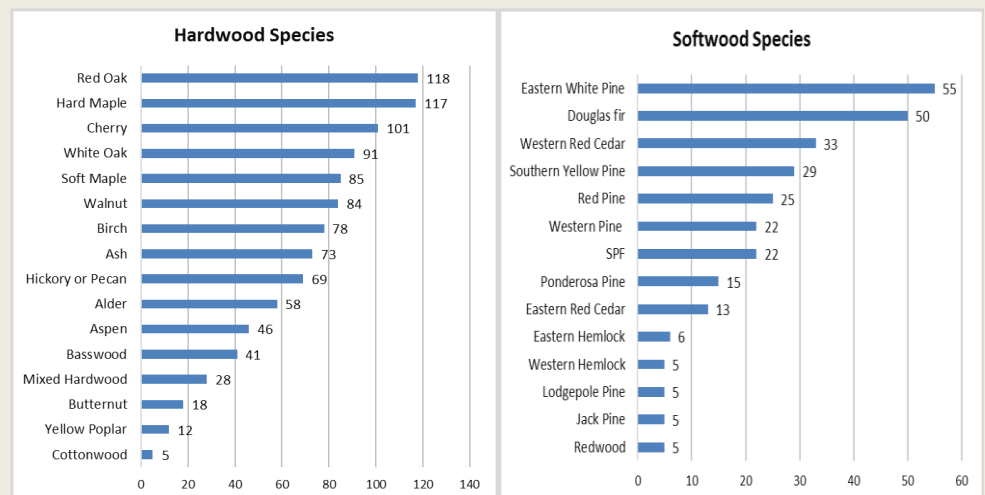


Figure 3. Wood species purchased by respondents (n=189)

“How are bark and wood residues generated during wood product manufacturing utilized?”

Utilization options for bark and wood residues

Sawdust and shavings were the most marketed residues with 27% and 24% sold, respectively (Figure 4). However, in some areas of Wisconsin, lack of markets may exist for sawdust since 25% of respondents stated they disposed of it and 32% gave it away at no cost instead of finding market opportunities.

Companies were asked to estimate tons of coarse residue (e.g. bark, clean chips, cut-offs, edgings, treated waste) and fine residue (e.g. shavings, sawdust, veneer clippings, treated residues) their facility produced. Fifty-six percent of the survey respondents generated a total 697,611 green tons of coarse residues and 342,658 green tons of fine residues in 2017.

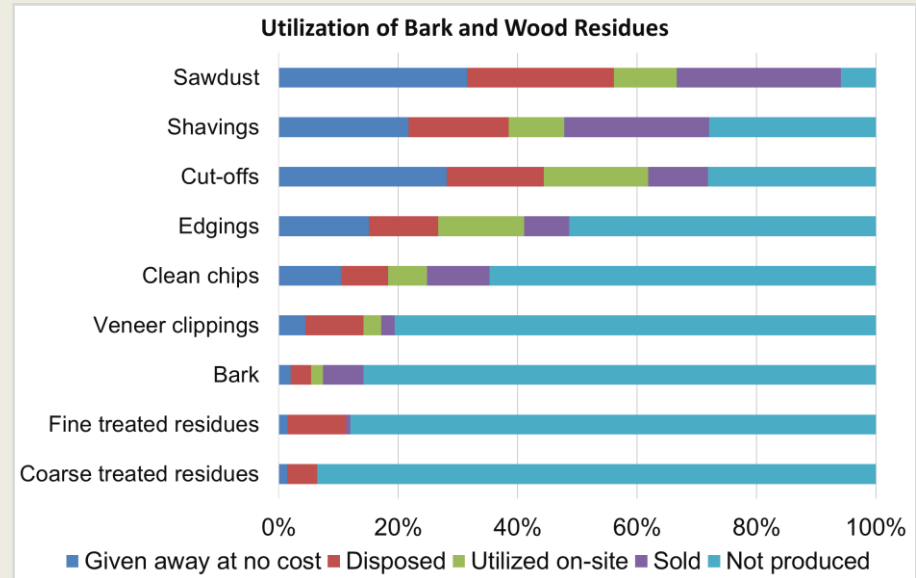


Figure 4. Disposal of bark and wood residues from responding companies (n=188)



“What certification programs are firms enrolled in?”

Extent enrolled in forest certification and/or quality management programs

Only 21% of firms indicated that they were currently enrolled in either a forest certification program, chain-of-custody certification program and/or quality management system. As shown in Figure 5, where multiple responses were possible, more manufacturers were certified by Forestry Stewardship Council than the Sustainable Forestry Initiative (15% and 4%, respectively).

Only 2% of firms were enrolled in a quality management system, such as the International Standards Organization certification. Other programs in which respondents participated were American Institute of Timber Construction, Kitchen Cabinet Manufacturers Association’s Environmental Stewardship Program, Timber Products Inspection, and Stafford Inspection Wood Packaging.

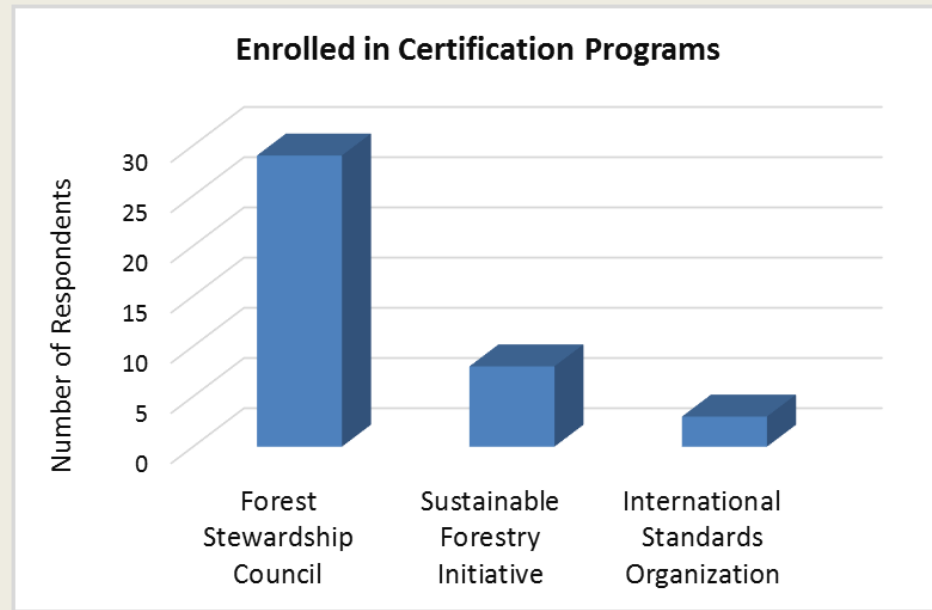


Figure 5. Extent of Wisconsin secondary wood manufacturers enrolled forest certification, chain-of-custody certification and/or quality management systems (n=192)



“What are the training needs and how often is there a labor shortage?”

Educational training requirements and frequency of labor shortages

Manufacturers rated the importance of 11 training categories using: not at all important, not too important, unsure, fairly important, and very important (Figure 6). Training in workplace safety, lean manufacturing, process improvement, and marketing/sales were rated relatively high on the importance scale, whereas softwood shop grade lumber grading, softwood construction lumber grading, hardwood lumber grading, and lumber drying were rated as a lower priority training need among the respondents. Some additional training needs that respondents noted as important to their company that were not listed in the survey options were computer aided drafting, trade apprenticeships, sawmilling, and timber grading.

Thirty-six percent of companies reported that they often or always experience a labor shortage (Figure 7). Smaller companies tended to report less turnover of employees compared to larger manufacturers. Companies with 25 or more employees had a shortage of employees often or always.

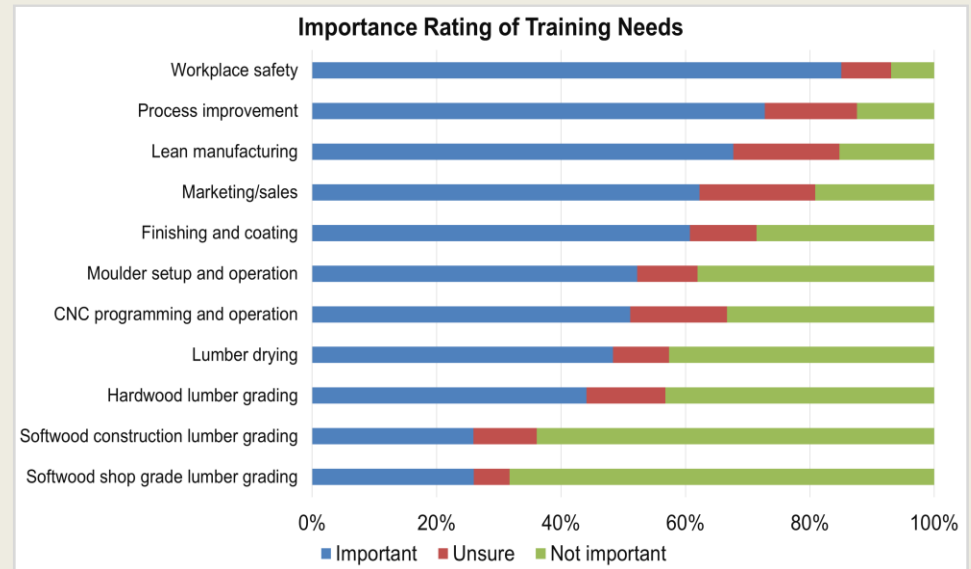


Figure 6. Importance rating of training needs for respondent firms (n=174)

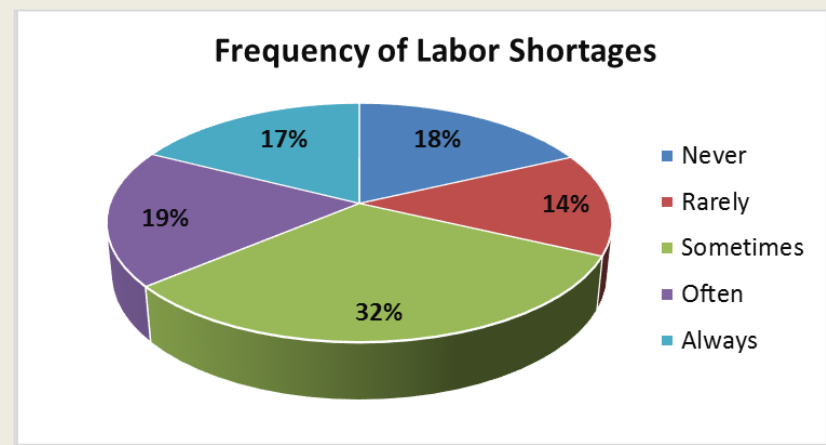


Figure 7. Frequency of labor shortages reported by responding companies (n=190)

Summary

In summary, Wisconsin's value-added wood manufacturers produce a diverse array of products ranging from furniture and millwork to industrial products, such as crates and pallets. The results showed that employment opportunities exist across the industry with most of responding companies experiencing some sort of labor shortage, especially larger companies. Enrollment in forest certification or chain-of-custody certification programs was the minority among respondents. Of those that were certified, firm who responded to the survey were more likely to be enrolled in the Forestry Stewardship Council program compared to other programs.

Most of the respondents purchased and sold wood products domestically. Global markets for valued-added wood products from the United States are minimal because of low labor and production costs overseas. There may be an opportunity to substitute locally grown commercial species such as red maple and red or white pine for wood species that are being purchased outside of Wisconsin such as red alder, southern yellow pine, and ponderosa pine. Market opportunities for residues may exist or could be enhanced in some areas of Wisconsin for sawdust, shavings, and cutoffs that are currently being landfilled. Potential uses for these residues not only include wood energy, but also products such as animal bedding, biochar, and wood composite products. This study indicated a continued need for educational training for the value-added wood industry, particularly in the areas of manufacturing and processing.

