Forest Products Utilization and Marketing: Industry Updates and Sawmill Trends

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For Today:

- Market Overview
  - Drivers
  - Current markets
- Sawmill Trends in Wisconsin
  - Past and present
  - Emerging markets and technologies
FPS Program Overview

• April 2014
  – 3 district staff
  – 1 statewide
• FIA Analyst
• FPS Team Leader

• Increase face-to-face interaction
• Direct assistance
What We Do

• Expert technical assistance, consultation, and technology transfer to support and grow Wisconsin’s forest products industry

• Foster job growth, job retention, and industry expansion
  – County Economic Development Coordinators
  – Regional Economic Development groups, WEDC
  – Industry Sector Support (OBSSS)

• Assist forest products companies to improve their competitiveness and market positioning

• Identify, develop, and evaluate regional and global marketing strategies
What We Do

• Foster regional supply chain networks

• Provide information about wood products, prices, availability, and product uses to regional partners

• Assist communities and businesses with wood utilization and marketing plans to mitigate the impacts of invasive species

• Inventory and analysis of Wisconsin’s forest resource to support all of the above

• Economic analysis—Julie Ballweg, WDNR Forest Economist
Wisconsin’s Forest Economy
Wisconsin’s industry
Importance of Forestry Sector

Wisconsin
- 59,597 jobs
- $22.9 billion
- $156.4 million direct taxes
- $6.4 billion value-added

Florence County
- 131 jobs
- $24.2 million
- $119,000 direct taxes
- $7.1 million value-added
Market Drivers
General Market Drivers

- Weather
- Number of Producers
- Available harvestable timber
- Available truck drivers
- Housing market
- Global Competition
- Customer Preference
- Currency
General Market Drivers

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Housing starts and wood product prices – Economics 101

75% of structural wood products go to housing (new construction plus remodeling).
50% or more of hardwoods go to housing related activities.

Sources: Prices – Random Lengths (http://www.randomlengths.com/); starts (Bureau of Census (http://www.census.gov/construction/hrc/))
Competition

• Global
  – Wages
  – Working conditions

• Regional
  – Fiber costs
  – Transportation
Competition

• Global

– Wages & work conditions

![Manufacturing compensation costs-2013](image)

Competition

• Regional
  – Fiber costs and transportation

<table>
<thead>
<tr>
<th>Region</th>
<th>Conifer</th>
<th>Hardwood</th>
<th>Aspen</th>
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<tr>
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<td>114</td>
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<td>54</td>
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<td>Pacific Northwest</td>
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<td>41</td>
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</tr>
</tbody>
</table>

Table: F2M & SLS, 2015

• What puts Wisconsin at a competitive advantage?
  – Secondary manufacturing?

Graph: F2M & SLS, 2015
Customer Preference

• Species, color, design, and wood substitutes
Customer Preference

• Perception drives customer taste!!!
Currency

Euro vs US $

CA $ vs US $

http://www.oanda.com/currency/converter/
Market Trends
Stumpage prices are influenced by many different factors. Prices have risen recently due to competition for raw material.
Sawlog stumpage prices have followed suit for many species
Pulp and Paper Industry

Pulping capacity per day

N=11

N=9

0
1,000
2,000
3,000
4,000
5,000
6,000

Tons

2008
2010

USDA National Pulpwood Production, 2014
Pulp and Paper Industry

Roundwood Receipts (mmcuft) vs. Year


USDA National Pulpwood Production, 2014
Hardwood Lumber

$0

$500

$1,000

$1,500

$2,000

$ MBF Lumber

$1,500

$1,000

$500

$0

Red Oak

Hard Maple

White Ash

#1C KD 4/4

Hardwood Review- Barrett, 2015
General Market Drivers

- Weather
- Number of Producers
- Available harvestable timber
- Available truck drivers
- Housing market
- Global Competition
- Customer Preference
- Currency
Wisconsin’s Logging Workforce

WI Logging Sector: Status and Future Direction

Rickenbach, Vokoun, Saunders, 2015
Sawmill Trends
A lot has changed over the years but misperception is still present...
Wisconsin’s Sawmill Industry

Diversity of markets

- Hardwood lumber
- Dimension lumber
- Cut stock/pallets
- Crane mats
- Log home components
- Railroad ties & cants
- Residues (bark/chips/sawdust)
- Veneer sorts
- Exports
Wisconsin’s Sawmill Industry

• Vertical Integration
  – Expanding into different areas of the production chain to capture additional value

• A handful of recent examples in WI:
  – Sawmill installs pellet line to utilize residue
  – Sawmill adds cabinet production line to enter value-added markets
  – Sawmill installs new equipment to handle bolts
The number of sawmills has declined due to the recession, consolidation, and global competition.
Production peaked between 1996-1999 and has since decreased.
Overall, a greater volume of hardwood saw log material is processed than softwoods.

![Graph showing roundwood receipts (mmcuft) from 1981 to 2008. The graph indicates that hardwoods consistently have higher receipts than softwoods across all years.](image-url)
Although red pine makes up the greatest percentage by species.
Observations

- Firms cautiously making new equipment purchases
- Vertical integration
  - Consolidation
  - Crossing market sectors (residue, bolts)
- Reports of comfortable saw log inventories heading into breakup
- Ash remains in demand
- Markets for common grades have slowed
  - Flooring plants filled up and possibly some overproduction
Sawmill Technologies

• Reduce/eliminate “waste”
  – Physical waste, defects, time, excess handling

Examples:
• Log and lumber optimization
• Grading and tally
• Heat treatment methods
Log and Lumber Optimization
Grading and Tally
Emerging Markets for Sawmills and Secondary Manufacturers
Thermally Modification

• Chemical-free process that modifies wood cell walls
  – Heat wood ~225-425F
  – Removed O_2
• Works with hardwoods and softwood
  • Applications
    ➢ Siding
    ➢ Decking
    ➢ Wine making

fdmc.digital.com  Aro and Donahue 2014 NRRI
Cross-laminated Timber (CLT)

• Prefabricated, solid engineered wood panel

• Benefits
  – Strong, lightweight, superior acoustic, easy to install, minimal waste on job site,
Biochar

• Heat biomass with the absence of oxygen
• Adds nutrients to soils
Biofuels

• Currently not cost effective than other fuels
• Only produced small scale

http://genomics.energy.gov
Cellulose Nanomaterials

• What are they?
  – Cellulose nanocrystals and nanofibrils (wood pulp)

• Current State
  – US invested to develop applications and tech
  – Pilot-scale

• Potential Products (lightweight, strong, stiff)
Restore Lost Manufacturing?

Why is this an opportunity?

– Rising transportation costs
– Growing middle class in developing countries
– Perceived lack of quality
Outlook

• Demand for wood & many paper products continues in grow
• Overall WI is doing better than many other states in retaining forest industries
• Export markets will continue to grow, which will help offset some uncertainties with the housing market
• Transportation costs will likely increase over the next year due to high demand for trucking & rail
Outlook

• Skilled labor is a perceived problem across the entire production chain
• Pulp/paper industries will continue to find new markets and also capitalize on chemicals once considered waste
• Wood heating continues to grow in popularity as consumers realize cost savings & payback
• With the trend in reshoring, there is hope for restoring outsourced manufacturing to Wisconsin
Questions?

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How can I find county economic data?

www.dnr.wi.gov

Keyword: “economic factsheet”
Citations


*IMPLAN*. IMPLAN Group, LLC, 2012. IMPLAN System (data and software), 16740 Birkdale Commons Parkway, Suite 206, Huntersville, NC 28078 www.IMPLAN.com

January 2015 Housing Commentary., U. Buehlmann and A. Schuler. 2015


Citations

USDA Foreign Agricultural Service  http://apps.fas.usda.gov/gats/default.aspx

