Primary Forest Markets in the Northern Landscape
Minnesota Forest Resources Council
September 17, 2013

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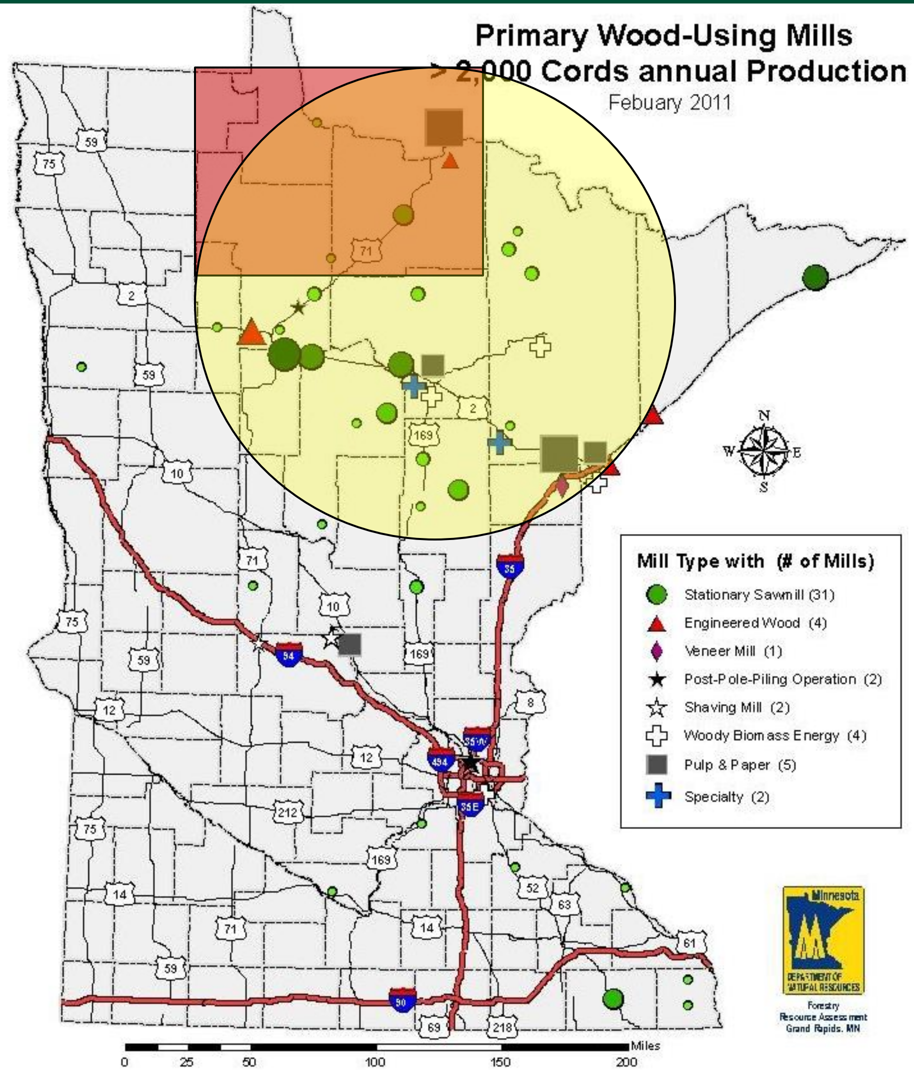
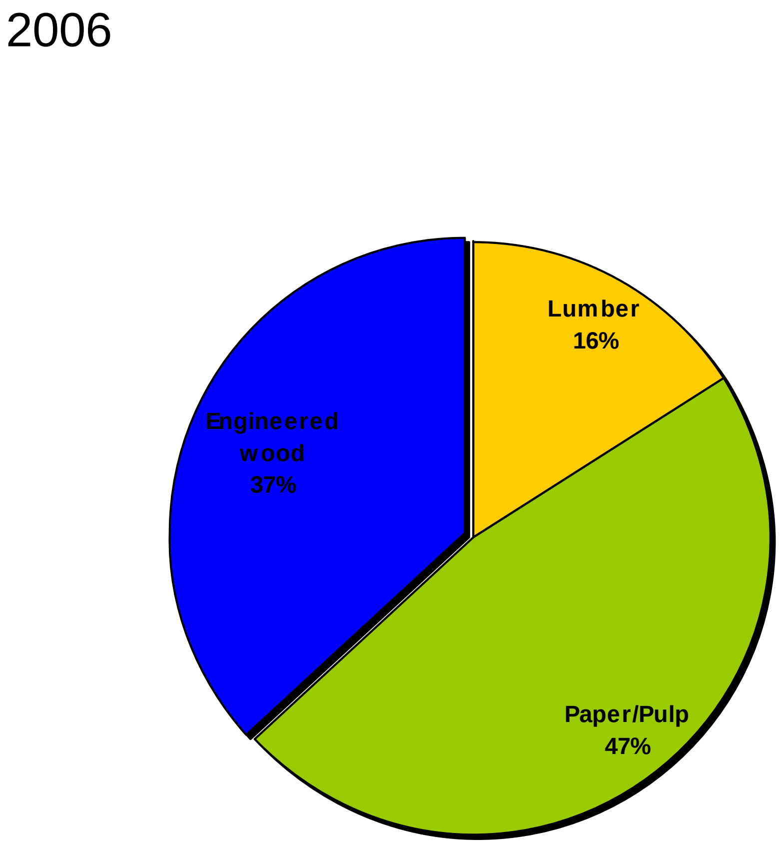
Outline

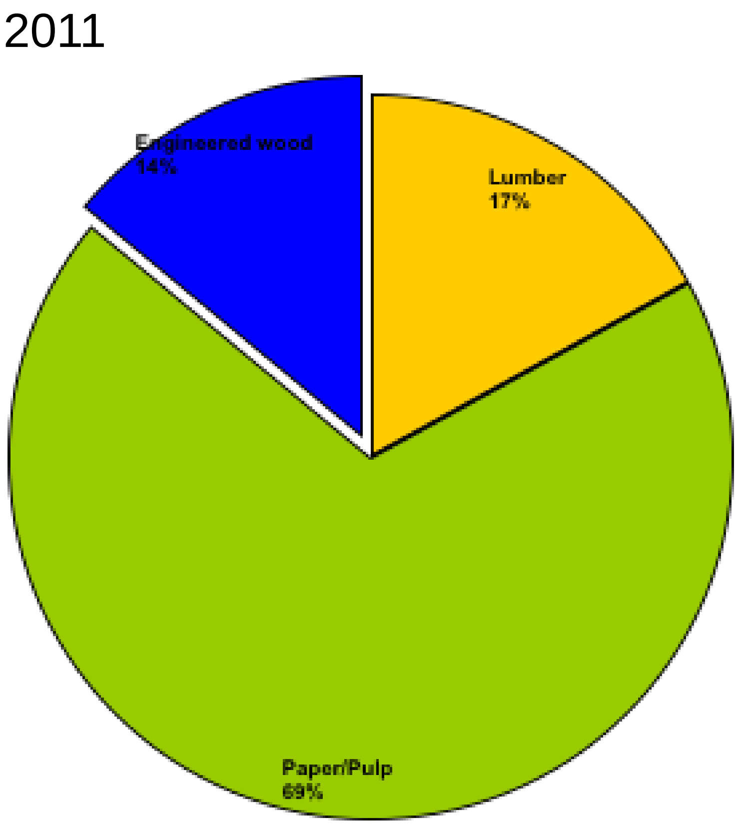
- **General Overview of Primary Forest Markets in the Northern Landscape**
  - Pulp/Paper – focus on Uncoated Free Sheet market
  - Solid Wood Products
    - OSB/Engineered Wood
    - Sawmills
    - Biomass
- **Individual Species Demand**
  - Hardwood
  - Softwood
- **Closer Look at Boise Paper in International Falls**
  - Recent Curtailment Announcement
  - Wood Fiber Supply Overview

Minnesota's Primary Wood Using Facilities and Utilization (2010)



Wood Utilization by Sector 2006 and 2011





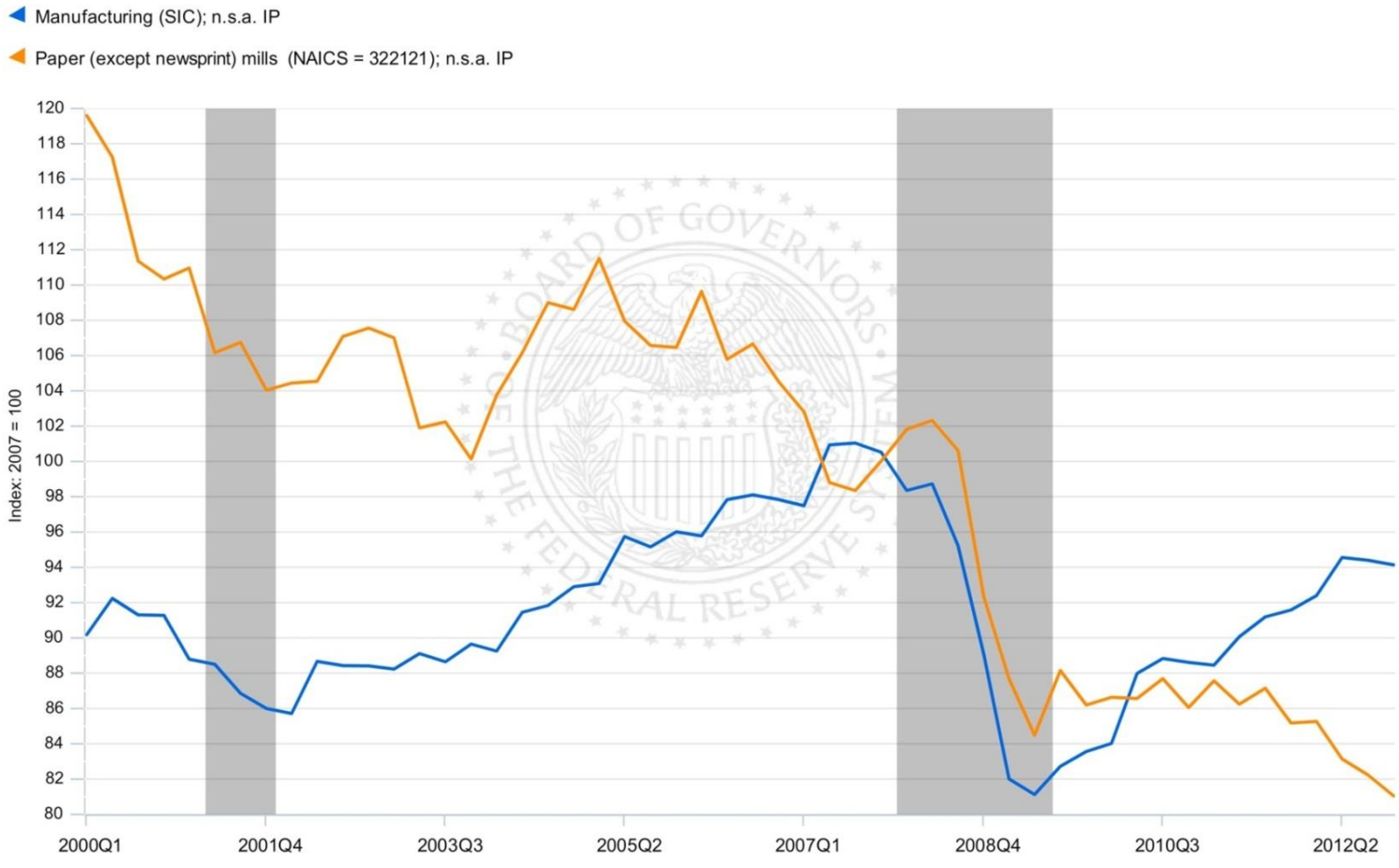
Source: MFI, MN-DNR

Pulp/Paper

Pulp/Paper markets in the Northern Landscape

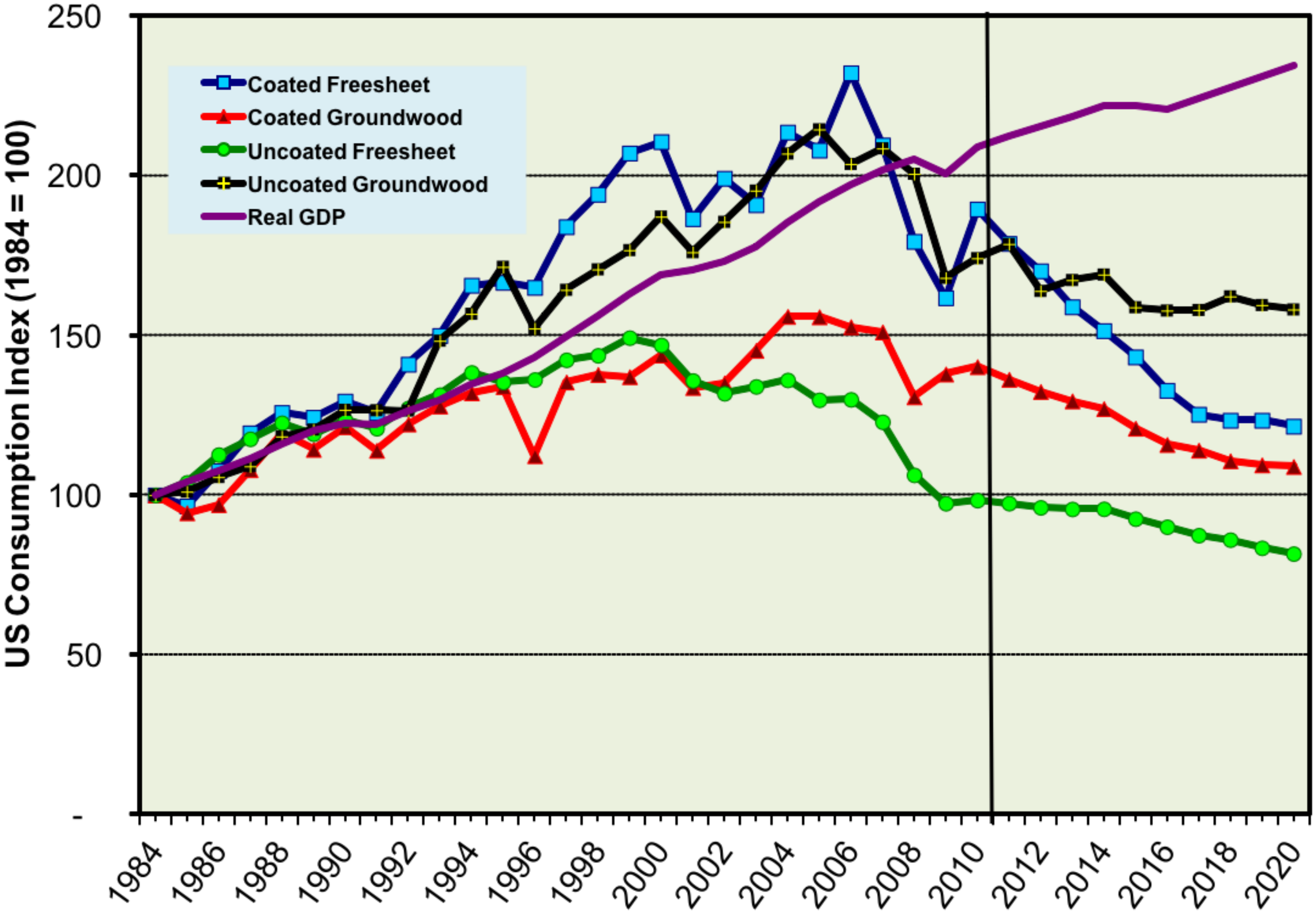
- **One pulp/paper mill located in the Northern Landscape-Boise Paper in International Falls**
- **Wood from this area regularly finds its way to other mills outside the area because of the resource supply found here**
  - Primarily softwoods to Blandin-Grand Rapids, NewPage-Duluth, and Resolute in Fort Frances, Ontario
- **Species Utilized from the Northern Landscape for Pulp/Paper**
  - Hardwoods- Aspen, Balm, Birch, Maple
  - Softwoods- Pine, Spruce, Balsam, Tamarack
- **Paper demand is slipping in recent years**

Paper Production Index (excluding newspaper)



Source: Federal Reserve Board 2013

U.S. Paper Consumption



What is causing the demand for paper to slip?

- **Demand for UFS is declining year over year**
  - Decline projected to be at least 3% annually
  - Main causes for the decline are electronic communication and transactions
    - Electronic communication technologies (e-books, e-readers, e-commerce, smart phones, social media, online advertising / media, paperless billing, etc.) are proving to be more disruptive to paper than most people forecasted only a few years ago

Even though demand has dropped, we are seeing increased UFS supply from off-shore competition

Capacity Reductions in North America

NA P&W Paper Capacity Reductions 2008-2011 (Tons)

Grade	# Mill / PM Closures	Total Capacity Reductions	% of 2010 Capacity	Total 2010 Capacity
UFS	16	2,582,000	19%	13,752,000
UGW	8	750,000	11%	6,695,000
CFS	6	1,033,000	19%	5,500,000
CGW	6	1,054,000	20%	5,182,000
Total P&W	**36**	**5,419,000**	**17%**	**31,129,000**

The four major printing paper grades will need to shed on average about 470,000tons / year (about 2.1% per year) in the US to keep up with the projected demand declines through 2020.

YTD through July, uncoated freesheet demand is down 3.5%.

More Recent Uncoated Free Sheet (UFS) Capacity Reduction Announcements

- **May 2013: Boise I-Falls closure of 2 small UFS machines ~ 115,000 tons/year**
- **August 2013:Georgia Pacific Crossett, Arkansas mill to close lone UFS machine ~ 93,000 tons/year**
- **September 11, 2013: International Paper announces closure of Courtland, Alabama UFS mill~ 950,000 tons/year!**
  - Largest UFS mill in North America
  - Accounted for 8% of North American capacity
- **These recent announcements should stabilize the market for some time**

Solid Wood Markets in the Northern Landscape

Solid Wood Markets in the Northern Landscape

- **Numerous Small-Mid Sized Sawmills located in the Northern Landscape (primarily sawing hardwood)**
- **Specialty Board Mill (International Biltrite)**
- **Major Markets for the resource used in Solid Wood Manufacturing are:**
  - Potlatch Studmill in Bemidji
  - Norbord OSB in Solway
  - Ainsworth OSB in Barwick, Ontario
- **Species Utilized from the Northern Landscape for solid wood**
  - Hardwoods- Aspen, Balm, Birch, Maple, Basswood, Ash, Oak
  - Softwoods- Pine, Spruce, Balsam, Tamarack
- **Solid Wood Sector Definitely Tied to Housing Starts**

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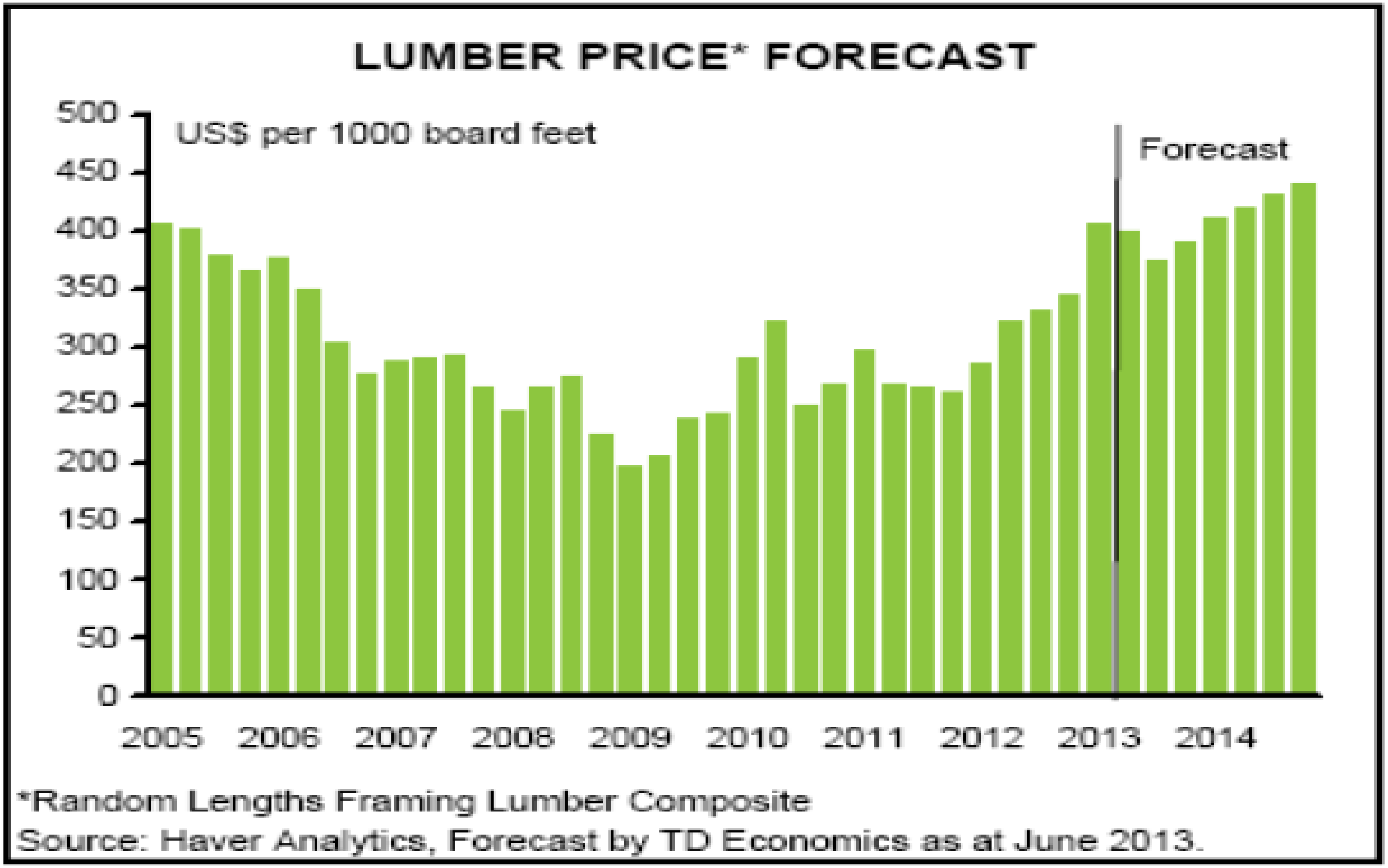
Lumber Price Forecast



Solid Wood is in the News

Ontario sawmill capacity slated to increase by 600MMbf, up 60% v. 2011
August 2, 2013 (Random Lengths Weekly)—Sawmills with the combined potential to produce 600 million board feet annually are poised to come on line in Ontario over the next few months through a combination of restarts and new capacity. At stated capacity, the additional production would be a 60% increase over Ontario's lumber output in 2011 of one billion board feet. The largest mill restart, scheduled for August, is White River Forest Products in White River, Ontario with 150MMbf annual capacity. Eacom Timber, Timmins, Ont. is scheduled to restart in September with 140MMbf annual capacity. Long Lake Forest Products, Longlac, Ont., is also scheduled to restart in September with 80MMbf annual capacity. Kenora Forest Products pushed back the planned restart of its stud mill from June to this fall with a stated capacity of 80MMbf. In addition to major restarts, Resolute Forest Products is building a new sawmill in Atikokan, Ont. with an annual capacity of 150MMbf scheduled for startup in 2014.

U.S. lumber output up 6.2% through June

Weyerhaeuser to restart engineered wood mill in Alabama

Weyerhaeuser has announced that it will begin plans to restart production on its I-joist and LVL lines in Evergreen, Ala., effective immediately. The plant was acquired by Weyerhaeuser in 2000 and has an estimated annual capacity of 2 million cubic feet of LVL and 120 million lineal feet of I-joists. The mill has been closed for the last four years due to market conditions. For more, click here...

8/23/2013

Irving plans new sawmill in Maine

J.D. Irving Ltd. has announced plans to build a new, $30 million sawmill in Nashville Plantation, near Ashland, Maine, according to a company press release. The mill is expected to open in late spring 2014. For more, click here...

8/20/2013

Western lumber output up 9.0% through July

Canadian lumber output rises through midyear

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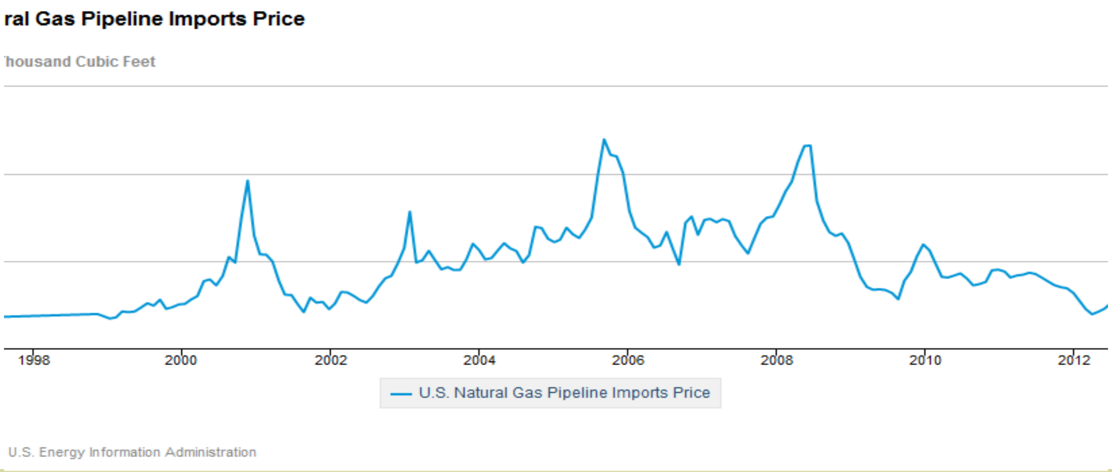
Biomass and Wood Energy

Biomass Markets in the Northern Landscape

- **Very limited markets currently for biomass due to distance to market**
  - Major biomass markets are
    - Boise Paper (most biomass is consumed from in-house bark)
    - Resolute in Fort Frances (currently slowed back)
    - Marvin Windows in Warroad, MN
    - Other markets consume small quantities from the area

Biomass Markets in the Northern Landscape

- **Biomass continues to be at the forefront of possible market expansion conversations**
  - Value added potential-technology gaps
  - Utilization of low grade material-win for the resource
- **Biomass market expansion for boiler fuel unlikely in near term – competition from natural gas**



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Current Demand for Individual Species Found in Northern Landscape

Aspen/Balm Overview

- **Currently the preferred species in the market (pulp/paper & OSB)**
- **Even with the strong demand, aspen harvest levels well below sustainable levels**
- **Private lands in the area contain a high aspen component**
  - Challenge is to get more family forest landowners to manage their resource

Paper Birch Overview

- **Follows aspen demand to certain extent**
- **Like aspen, state wide harvest levels are below sustainable levels**
- **Birch is treated as a cheaper alternative to aspen in the manufacturing of pulp**
- **Like the pulping process, birch can be metered in for the production of OSB as a cheaper fiber**
- **Following the general uptick in lumber demand, birch saw bolt demand is increasing slightly**

Ash Overview

- **Species with greatest health concerns (Emerald Ash Borer)**
- **Very little demand in the pulp/paper sector**
  - During certain times of the year, some ash pulpwood is marketed to Wisconsin
  - Sappi has historically sourced limited quantities of ash, but that remains uncertain with their new mill configuration
  - Boise has used ash in the past, but currently do not (may use low volumes in the future)
    - Ash creates problems in the pulping process that aspen & birch do not
- **Steady demand for ash saw bolt material**
  - Challenge for sawmills to find markets for chip by products
- **Ash is very suitable biomass, but distance to most markets limit the utilization**

Spruce Overview

- **Strong & steady demand among all market sectors for high quality spruce**
  - It is the preferred softwood species in the state for manufactures of pulp and paper
- **Spruce from this part of the state finds its way to mills as far away as central Wisconsin because of its great paper making qualities**
- **Spruce demand is high for use in making dimension lumber**
- **Most of the spruce resource here is black spruce, which limits access and increases costs for mills**

Tamarack Overview

- **Tamarack has been hit hard in this part of the state by pests**
- **Dead tamarack stands are not usable fiber for making pulp and paper**
  - Because of distance to biomass markets, many of these stands will likely not be utilized
- **Live tamarack has market demand from the pulp/paper sector**
  - Can be added at controlled percentages in the pulping process as a cheaper alternative fiber to spruce or pine
- **Some demand from OSB mills and small sawmills for pallet stock**

Balsam Overview

- **With Verso closure, balsam markets have become very tight**
  - Verso was the main market for balsam in this area
  - Balsam availability is tied to aspen harvest
- **UPM-Blandin and NewPage still utilize balsam fir, but cannot utilize all that is available**
- **Boise has started to utilize balsam at low volumes**
- **Balsam saw bolts will have higher demand as Potlatch expands its kiln capacity**
- **High quality balsam is needed for all current markets**
- **Biomass is an option, if close to the market**

Pine Overview

- **Pine demand remains strong among the solid wood sector**
  - Largest volumes flow to Potlatch mill
  - Small specialty demand
  - Some pulpwood marketed to OSB mills
- **Demand from the pulp/paper sector is steady**
  - Boise utilizes both sawmill residual chips and pulpwood
  - At times, pine chips can find their way to Canadian markets

Boise-International Falls Overview

International Falls Capacity Reduction Announcement May 2013

- **Permanent curtailment of I2, I4, and an off-machine coater**
  - Curtailment required to reduce Uncoated Free Sheet (UFS) capacity due to decreased demand and increased off-shore supply
  - Eliminates expensive purchased pulp requirements, and makes International Falls mill competitive into the future
  - Will reduce UFS capacity by approximately 115,000 tons annually
  - Will result in elimination of approximately 265 salaried and hourly positions across all areas of the mill

Curtailment Announcement Continued..

- **Permanent curtailment of I2, I4, and an off-machine coater-no later than Q4 2013**
  - Will continue to operate pulp mill, 2 paper machines (I1 & I3), and other supporting infrastructure including chip manufacturing plant
  - New configuration with remaining 580 jobs in the mill

These decisions are necessary to improve our cost position in the market and secure the future for the I-Falls location

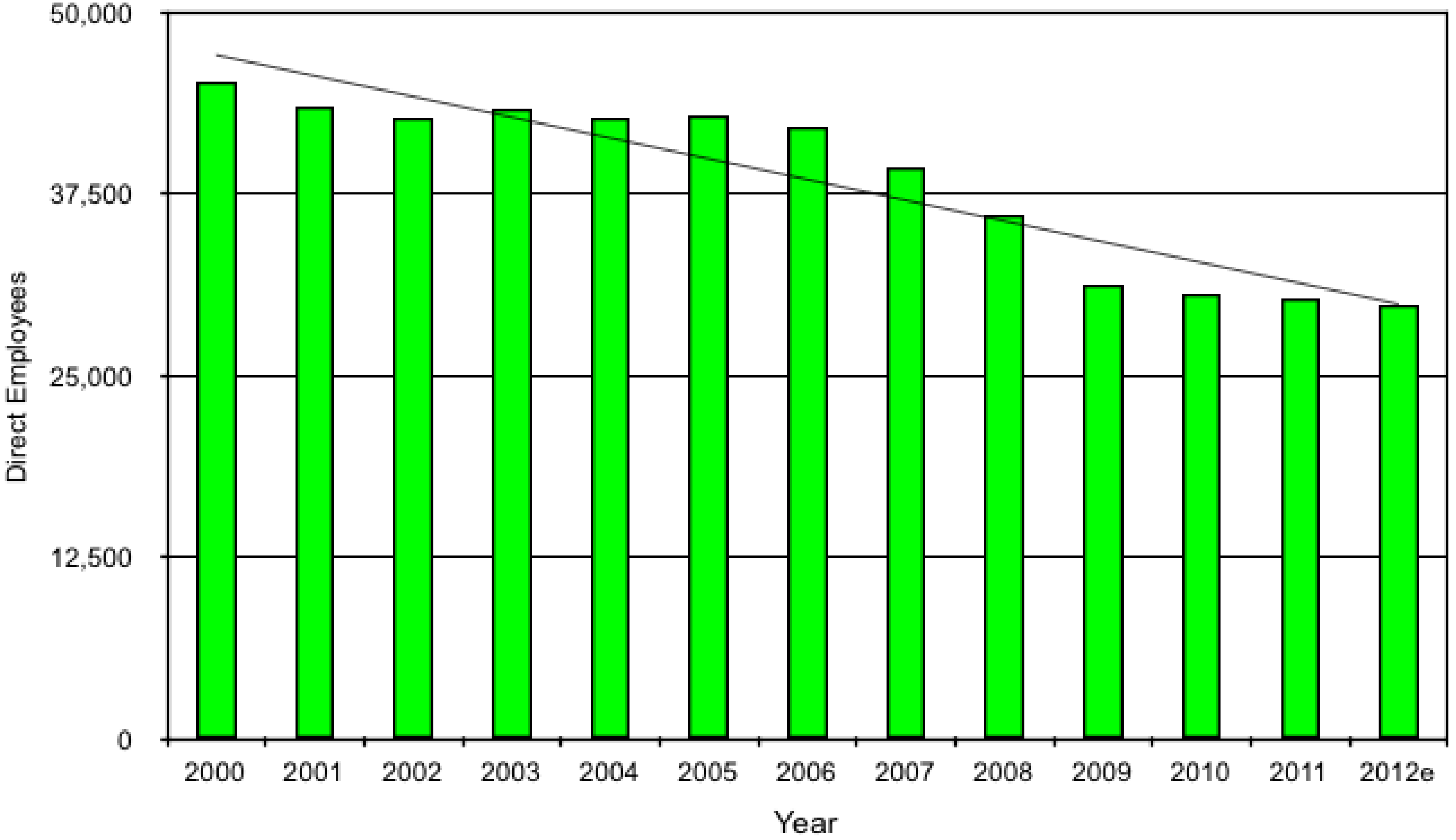
Impact on Employment

Job Multipliers

- Every job in a paper mill creates an additional 3.5 jobs throughout Minnesota.
- Every job in a sawmill or engineered wood product mill creates an additional 1.5 to 2 jobs throughout Minnesota.
- Curtailment will affect another 900+ jobs throughout Minnesota

Source: UMD Labovitz School of Business. The Economic Impact of Minnesota's Forestry –Related Industries on the State of Minnesota, 2010

Minnesota Forest Products Industry Jobs



Source: US Census of Manufacturers

Paper Machine Configuration Going Forward

- We will continue to focus on maximizing production and customer needs on I1 (producing office papers and offset) and I3 (producing cut size, colors, offset, and other specialty grades)
- We will continue to focus on optimizing our pulp mill to meet the demands of I1 & I3
- The machine curtailments will essentially make International Falls pulp neutral

Wood Fiber Procurement Overview

- Procure 620,000 cords annually (540,000 cords roundwood and 80,000 units chips). 70% Hardwood and 30% Softwood
- In the average year we receive 52,000 truck loads.
- Utilize 24 contract loggers, 70 open market loggers, and 10 chip suppliers. The average logging operation employs 10 individuals (seasonally).
- Purchase stumpage throughout northern Minnesota. The average haul distance to I Falls is 70 miles

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Wood Fiber Procurement Continued…

- 70% of annual roundwood harvest takes place between early-December and early-March.
- Boise does not own land except for a few scattered parcels for wood storage.
- Wood comes from a variety of sources including state, county, and federal agencies, Molpus Timber Management, and private landowners.
- FSC/SFI/PEFC CoC and SFI Procurement Certification

Opportunities to Keep MN Markets Successful

- **Quality & Quantity of the resource**
  - We need to maintain and enhance the necessary fiber on the market for mills to remain competitive
  - Quality wood fiber takes less time, energy, and money to produce both in the woods for loggers and at the mill
- **Summer Available Wood**
  - Need to maximize non-winter harvesting opportunities to sustain the industry
    - Difficulty for loggers to keep steady cash flow
    - Difficulty to keep good employees to carry out harvesting
    - Mills run year round, so to maintain a fiber supply that is mostly harvested in the winter comes with added costs, and can jeopardize a mill's financial performance
  - Need for increased forest road maintenance funds

Opportunities to Keep MN Markets Successful Continued…

- **Energy Costs-both Electricity & Fuels**
  - Minnesota has some of the highest electrical rates compared to other paper producing states (industrial electrical rates have increased 55% since 2002)
  - The need to keep harvestable wood on the market as close to mills as possible with today's diesel fuel prices
    - It will costs a logger approximately $20/cord alone in diesel fuel to get a cord of wood to I Falls from Baudette!
  - The forest products industry leads the charge on the renewable energy production by utilizing process by-products
- **Certified Forests**
  - The large percentage of MN certified forests give mills here a competitive advantage over other competitors

Questions??