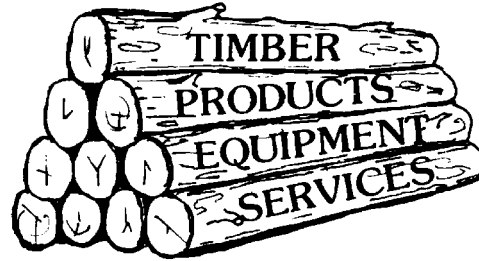




A Service to
Minnesota's
Forest Industry

The Market Place



Summer 2005

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Hope you enjoy it!

Keith Jacobson

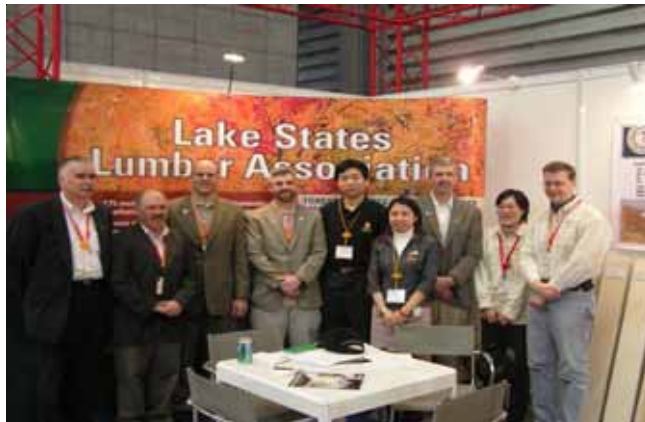
MarketPlace Bulletin

The MarketPlace Bulletin is published four times annually by the Minnesota DNR Wood Products Utilization & Marketing staff and is distributed free of charge. It serves the wood industry of the state by providing relevant information on forest industry and forest resources, and by listing forest product and related items wanted, for sale, equipment for sale or wanted, services provided and employment opportunities. The Bulletin has a mailing list of over 3,000, and is also available on the internet at: <http://www.dnr.state.mn.us/publications/forestry/marketplace/index.html>.

Persons can begin receiving the bulletin, or cancel a current subscription, by making a request by phone at: (651) 296-6491 or by email: keith.jacobson@dnr.state.mn.us.

China Mission

Brain Brashaw and Xiping Wang of the Natural Resources Research Institute (NRRI) in Duluth and I were fortunate enough to have the opportunity to join the Lake States Lumber Association's China mission in March of this year. Following is a brief overview of the trip, and of some of our thoughts on China as it relates to the solid wood business. Several Wisconsin and one Minnesota wood business had representatives on the trip, along with representatives from Wisconsin DNR and University of Wisconsin Extension.



Some members of the Lake States Lumber Association 2005 China Mission and staff of the Lake States Governors' China Trade Office

Thanks!

First, we need to thank the organizations and companies that made our participation possible and provided support for the trip: Lake States Lumber Association (LSLA), Rockland Industries, Ferche Millwork, Crystal Cabinets, the Softwood Export Council, NRRI, Minnesota and Wisconsin DNR, UW Extension and the Lake States Governors China Trade Office .

Trip Purpose

We wanted to get on the ground in China mostly in order to better understand what Minnesota wood product businesses need to do in order to remain competitive in the global marketplace. Additionally, we wanted to investigate opportunities for Minnesota wood product companies to do business in China, and establish contacts that would help Minnesota companies that wish to market wood products in China. We certainly don't claim to be "experts" based on a two week trip, but we do now have a better understanding of the China wood industry picture.

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Itinerary

We spent 3 days in Dongguan, where we attended a furniture trade show, went on several wood industry tours, and met with the Dongguan International Famous Furniture Association. We also spent 3 days in the northeastern port city of Dalian, where we attended a wood trade show, went on several more company tours and met with the Dalian Furniture Association. We spent our last 5 days in Shanghai, where the LSLA had a booth at the Wood Mac Trade Show. We also toured a flooring market and a B&Q Home Improvement store (a British-based company very similar to our Home Depot) in Shanghai.

Seeing is Believing

It is one thing to read and hear about China's rapid industrialization and growing impact on wood industry, but it is quite another to see it for yourself. We witnessed incredibly rapid industrial and infrastructure development first-hand. China is rapidly becoming a force to be reckoned with economically and politically.

Several things we witnessed and heard may help to illustrate the explosiveness of Chinese economic

growth: After arriving in the southern port city of Guanzhou, we took a van to our hotel in Dongguan, which is a trip of 50 to 60 miles. There was never a point on that drive where we could look out the window and NOT see several (often many) construction projects in progress. Factories, apartment buildings, roads, water systems – all being built at an astonishing rate. We were told that the city of Dongguan with its 2 million inhabitants barely existed 10 years ago. We could see DOZENS of large construction cranes from our hotel window. As another illustration, we were told that real estate prices in Shanghai had recently risen over 80% IN ONE YEAR!

Timber Supplies

Many people do not realize that the domestic Chinese timber supply is low. Much of the internal forest resource has been put in reserve status following some severe flooding in the late 1990s. Therefore the Chinese import over half of the wood used for their wood manufacturing industries. Wood is imported from all over the world including Russia, Europe, South and North America, Indonesia, Malaysia & Africa. Many wood manufacturing businesses are

supplied through "wood markets". Many wood supply companies (400 of them in one market we visited in Dongguan) lease space in the large "wood market" and broker wood from around the world for sale to Chinese companies.

One quick story: At one of the wood markets, we obtained permission to take pictures during our tour. About halfway through the tour, we noticed a fairly heated discussion going on between our tour guide (the wood market manager) and several of his patrons. Suddenly, we were not allowed to take any more pictures of wood during the tour. What did they not want us to take pictures of? We don't know for sure, but we did find it interesting that this was the only time on the entire trip we were kept from taking photographs.

As folks in the wood business know, importing wood from many distant places in varying moisture and temperature conditions can cause wood quality issues such as elevated moisture content, warping, checking and staining. For these reasons, re-drying of wood is commonly done at manufacturing facilities in China.

Forest Certification has a very small impact at present. It is likely to be awhile before this has a major impact on the Chinese wood industry.

Environment

We never saw full sunlight in 3 days in Dongguan. Not because it was cloudy all the time, either - the air quality was just very bad. We would start to feel a burning in our

chest and eyes by the afternoon each day. Dalian & Shanghai air quality was somewhat better, at least during the time we were there. The Chinese use lots of coal for energy, and based on the air quality we experienced, they probably don't use much "clean burning" technology.

Nearly every waterway we saw was FULL of garbage. We were warned not to drink the water anywhere, even in very fine hotels. We relied on bottled water to drink. Environmental concerns are not a high priority in China at this point. Government policy almost seems to be "development at all cost." Pressure to employ people seems to be the overriding factor.

Social

We found the Chinese people to be extremely gracious & friendly. Many were very interested in Western and U.S. culture. We were surprised to see so many Anglo faces featured on billboard advertising (probably more common than Asian faces, in fact). We were also somewhat surprised to learn that quite a few people we interacted with knew who Kevin Garnett of the Timberwolves was - this was virtually the only major Minnesota connection we found.

English skills are developing rapidly in China. At all of the hotels and almost all of the restaurants we visited, there were several people who spoke English.

Most of the Chinese population at present live in rural areas, and many are very poor subsistence farmers. We did not see any of this part of China. The rural areas are supplying most of the low-wage workers that drive the manufactur-

ing economy. Manufacturing companies bring in workers from the countryside and house and feed them on-site year-around. Because of this worker migration, southern and eastern coastal cities are experiencing explosive development and growth.

A modest-sized middle class is presently developing in China, and they are beginning to become consumers of many goods. Most Chinese are still relatively poor.

Political

China has a Totalitarian central government that doesn't have a formal mechanism for real public input. One result is that while social change is happening, it is at a much slower pace than economic change. Also, environmental, worker safety, social welfare concerns seem to be "back burner" issues for the government at present, as they focus on building their economy.

One thing that potential investors need to keep in mind is that international relations will impact investor/trading partner risk. China desires to be the dominant political force in Asia, and it appears likely that they will be at some point in the not too distant future. Many neighboring countries are nervous about this shift in political/economic/military power. Economic ties will certainly influence Chinese foreign policy, but will economic or political considerations be the dominant factor?

Wood Industry

We witnessed a wide range of technology and manufacturing expertise in the companies we visited. Most companies seemed

to have good "second-hand" processing equipment, and lots of labor, although there are companies that have "world-class" equipment and technology. But certainly labor cost is very low. Chinese manufacturers can simply afford to do more work by hand than we can here. One illustration of this: At one 400-plus employee size flooring company we visited, it seemed to be two people's main job to haul burlap sacks of sawdust residue from the manufacturing facility to the boiler for the kiln. In this country at a company of similar size, there would normally be some sort of conveyor or trucking system for handling residue, but when you need to employ lots of people and they don't cost much, things get done differently.

The Chinese government is serious about supporting the wood manufacturing industry. Several (some sources have indicated as many as many as 6) forest product research facilities have been established at Chinese universities (Similar to USFS Forest Product Lab in Madison, Wisconsin).

Factory workers are typically "migrants" from the Chinese countryside. Companies house & feed workers in dormitories next to the manufacturing facilities year-around. Wages of \$150/ month (plus room and board) seemed common for factory workers. This is very good money in China. Manufacturing employees seemed happy to have the work - it was an improvement over the very hard life on the farm that they had come from.

Worker safety seemed to be a lower priority than in the United

China.....Continued from Page 3

States. Based on what we saw, we concluded that there probably isn't a Chinese equivalent to OSHA. We saw virtually no dust abatement equipment or guards on potentially dangerous machinery. Workers were observed literally in the "throat" of a veneer-slicing machine at one point. I have been told that this can vary considerably between companies, however, and that some pay great attention to worker safety.

It seemed common for Chinese businesses to be structured as "joint ventures" with foreign companies from all over the world. It was explained to us that the joint venture companies are half owned by the foreign partner and half owned by the Chinese company. Companies commonly produce products both for export and for the Chinese domestic market, in proportions that vary widely by company. *Most of the companies we visited were 10 years old or less.*

It is good to keep in mind that while Chinese businesses have many competitive advantages, they have some "issues" to deal with too. Some of these include a possible revaluation of currency, occasional shutdowns due to inadequate energy production, a banking system that some analysts allege may be shaky, and others.

Furniture, Flooring and Cabinet Manufacturing

For any readers that are not aware, the Chinese furniture and flooring segments have literally exploded in size over the past 10 years. We observed some very high quality products being made, and also what I would classify as medium quality products. It is of

interest to many of our fine Minnesota cabinet and cabinet component manufacturers that the cabinet manufacturing sector is also growing. We visited one flooring company that was in the startup process of a cabinet-door making operation.

We saw a wide variety of wood species being used in furniture and flooring manufacturing: Chinese oak, Russian birch, Rubberwood, Maple, Red oak, Ash, Walnut, etc.

Buildings

Most Chinese buildings (residential & commercial) are constructed with cement & brick, using very little wood compared to the U.S. The vast majority of dwellings in cities are apartments. These are most commonly provided to the purchaser "bare walls", with the purchaser responsible for finishing: electrical, plumbing, furnishing, flooring, decorating. This is commonly done using the services of one or more contractors. One strategy for supplying wood products to Chinese consumers might be to hook up with large, reputable building contractors.

We visited a B&Q store (a British-based home improvement chain store in Shanghai). They offered essentially the same products as a Home Depot here.

Challenges to Minnesota Wood Businesses

A few challenges to domestic wood product manufacturers follow.

- Chinese manufacturing costs are low: Labor is cheap and plentiful, environmental requirements seem modest at best and

China is in close proximity to a large and cheap Russian wood supply.

- Business law is in its infancy in China. Therefore relationships are absolutely critical in doing business in China. If you run into problems, you need to have someone who knows the country and has your interests at heart.

- Many medium-sized Chinese companies are interested in exporting to the North American market.

- There are tremendous numbers of furniture and flooring manufacturers in China, and a growing number of cabinet and cabinet component manufacturers.

Opportunities for Minnesota Wood Businesses

Our thoughts on a few potential wood product opportunities follow.

- The American Forest & Paper Association (AF&PA) has recently been successful in getting wood accepted into Chinese building codes for single-family dwellings. They are now beginning to work on getting wood accepted into codes for use in other types of buildings.

- Rapid Chinese industrial development should eventually result in a large market for imported products. The market is limited at present, but there are some possibilities. These include some lumber sales opportunities. Some finished product possibilities may include: Packaged housing, windows, and some specialty products. Perhaps even cabinets could be sold in limited instances.

- Freight rates going TO China are cheaper than for shipping products here.

- There seemed to be great interest in Western culture. A natural marketing strategy would be to emphasize this angle.
- It is inexpensive to travel in China. Personal investigation by U.S. companies is not prohibitively expensive.

Takeaway Messages

Finally, we want to conclude with some takeaway messages.

- If a Minnesota business wants to investigate market opportunities, help is available. Our own Minnesota Department of Employment and Economic Development (DEED) provides assistance to small and medium sized companies that want to explore export markets. Details can be found at the following web address: <http://www.exportminnesota.com/>
- Some wood product market niches are worthy of further investigation. *There is potential, but go slow.*
- The Flooring & Cabinet sectors are likely to see more competition from Chinese imports.
- Minnesota companies can compete by knowing and working with their customers, up the supply chain if necessary, providing “Service, Service, Service”.
- Reaping a significant portion of profits from “Niche” products is a good strategy. Commodity products will become even tougher to compete in.
- “Lean” Manufacturing or Continuous Improvement Programs are a must for Minnesota manufacturers.

- Finally: We CAN compete, but companies will need to continue to be aware of the threats and opportunities facing them and work hard to position themselves for the future.

Review of the 2005 World Trade Fair for Forestry and Wood Products: Ligna+

Our friend Pat Donahue of NRRI is a big proponent of the Ligna trade show held in Germany every other year as a worthwhile event for many of our wood product business people to consider attending. Following is Pat’s brief review of this year’s show:

Ligna+ is the premier international trade fair for the forestry and wood products industry. The show occurs every other year in Hanover, Germany, and has grown to be so popular that nearly 120,000 people attend. The show features technology information, but the real “plus” of Ligna+ is the networking possibilities it presents. Visiting the show can establish a worldwide network of technical resources to tap into on a daily basis. From high volume test manufacturing to single craftsmen, Ligna has it all. Whether you’re interested in rollers, drying racks, or robots, it’s a guarantee you will

find what you’re looking for at this show.

The trade show starts with forest harvesting as its primary input, demonstrating in full-scale displays not only harvesting, but also sawmill production and composite panel concepts. This year there were many themes being highlighted. A new focus was energy from wood with biomass co-generation plants. The use of information technology for decision-making and process control was also a focal point, as was automated complex machine tools that encouraged the “lean factory”. One of the primary themes was lightweight panel technology, and an expanding area was wood plastic composites. Not only was the industrial wood business covered, but the show also featured several halls on automated wood-frame housing machine tools and material science.

For people involved in working with wood products and in forestry, Ligna+ provides a multitude of networking possibilities and an ever-expanding display of new ideas and technologies to inspire worldwide development and creative expansion of both industries!

For more information, contact Pat at 218-720-2705, or visit the Ligna homepage at: http://www.ligna.de/homepage_e?x=1

Red Oak Markets

Red oak has been a “bread and butter” species for many Minnesota hardwood sawmills for years. Red oak makes up approximately 17% of hardwoods utilized by sawmills in the state (close to 38% in southeastern Minnesota). The past few months have seen a serious softening of red oak markets, especially for Common grades of lumber. Many loggers and sawmills that have timber purchased based on last years’ higher red oak prices are being squeezed. A common question as we completed our recent sawmill production surveys was “where can I sell my red oak?”

Because red oak is so significant to many of our sawmills and also because it is a significant forest resource in need of markets to promote good management, I recently spoke with two Minnesota hardwood wholesalers to get their perspective on the red oak market situation. Thanks much to Dan Jacobson (no relation) of Woodland Forest Products and Mike Mallin of Midwest Hardwoods for sharing their market insights with us. Thanks also to the “Weekly Hardwood Review”, which ran an editorial on this subject in its April 22 issue.

Red oak demand from most sectors has fallen off quickly. This includes the furniture, flooring, wood component, export, cabinet and millwork sectors. Of these, the cabinet and millwork industry segments have held up better than the others. Demand in all sectors has shifted largely to lighter colored woods such as maple. The bottom-line result of this market shift is that prices for red oak lumber in the # 1 Common and # 2 Common grades have fallen dramatically. Prices for the Select and Better grades have held up somewhat better than the lower grades.

The major cause for softening red oak markets is a change in consumer preference toward lighter colored woods. Neither Mike, Dan or the “Weekly Hardwood Review” sees this as a short term situation that will change in a few months. All foresee a longer-term trend. Changing the situation long-term is likely to require industry-wide efforts over the next several years. The “Hardwood Review” feels that red oak demand can eventually be turned around in several years, with industry-wide promotion efforts. Several hardwood industry associations have recently undertaken campaigns to promote red oak.

The market situation begs the question of what producers who rely heavily red oak can do. A few thoughts include:

Practice financial discipline on future red oak timber purchases. Mills and loggers will not be able to pay stumpage prices based on product prices they were getting a year ago.

Investigate the tie market, and consider producing more ties. The railroad tie market continues to be strong, so ties are likely to be a good product option for the center of red oak logs. There will be a limit to the very strong tie market as supplies become greater, but for now this could be a good option. Work with buyers to get updated information on this market.

Producers that sell products directly to end users can engage in local red oak promotion efforts with their customers.

Work up the supply line with your customers in order to better know their needs. Can you provide better service or a more customized product for your customer than the next guy?

Pay even more attention to log quality. Loggers could be paid more based on grade instead of just volume. A premium for higher-grade logs, along with additional communication and training, could result in improved bucking and sorting, and therefore value recovery for mills.

If you are not a member of an industry association, consider joining and becoming active in red oak promotion efforts.

A Final Thought

There is hope for a red oak market rebound long-term with solid industry effort, but for the near term, mills and loggers will need to adjust to current conditions.

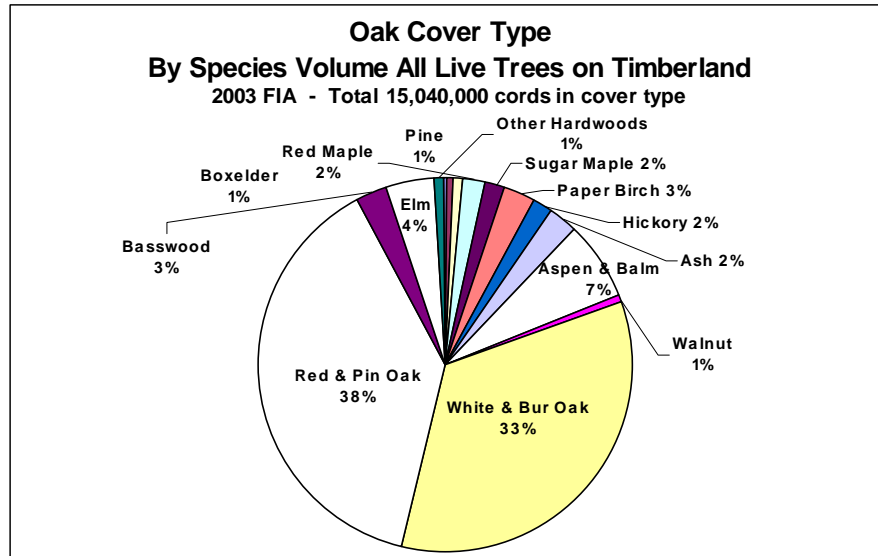


Minnesota's Forest Resources Overview

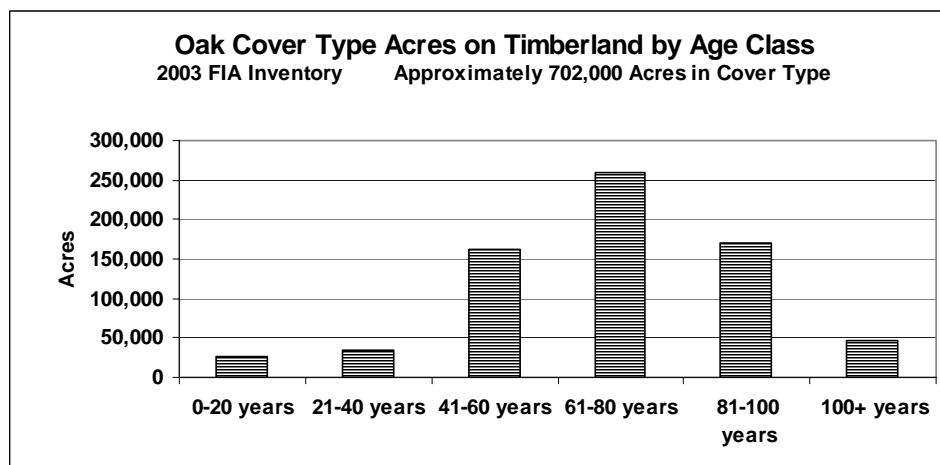
A brief look at the oak resource is part 6 of our continuing look at Minnesota's changing forest resource.

Minnesota's Oak Resource

The oak cover type is comprised of a number of species, the most prevalent of which are in the red and white oak groups. There are also significant aspen volumes present, along with smaller volumes of a wide variety of hardwoods.



There are about 702,000 acres in the oak cover type, of a total timberland area of about 15 million acres in Minnesota. Along with the volume in the oak cover type itself, oak is a significant component of several other cover types, including northern hardwoods and aspen. Red and white oak are a significant timber resource in the southern and central portions of the state, becoming less so the further north that one travels.



The oak cover type is mostly a middle-aged to late middle-aged resource. Red oak reaches 120 years of age (and sometimes more) on good sites in southern Minnesota, with bur oak able to reach 150 years plus. Red and white oak grow best on productive, mesic sites. Pin oak and black oak are often found on drier sites. Bur oak is able to grow on a wide range of site conditions.

Wildlife

Oaks are tremendously important species for wildlife. They provide an important food resource for many wildlife species, including wild turkeys, whitetail deer and several non-game species.

Gypsy Moth

The most recent projections estimate that gypsy moth is likely to become established in southeastern Minnesota in 10 years or so, progressing across the main oak range from there. Gypsy moth will not result in a total devastation of the oak resource. The likely outcome will be increased oak mortality following outbreaks, especially on less productive, drier oak sites.

Management

Red oak is intolerant of shade and seedlings have fairly slow juvenile growth. These factors, along with a tasty stem for wildlife browse and inconsistent seed production, often make regeneration of oak a real challenge. This is especially true on very productive sites, where faster-growing competing vegetation often shades out oak seedlings. Reproduction is also challenging in very old stands, where regeneration from stump sprouts is less reliable.

When oak regeneration is desired, stands are typically managed on an “even-aged” basis. A few oak trees are often reserved in harvest areas to provide wildlife habitat (dens and food). Natural regeneration from sprouts and acorns is often relied upon. However, it is often a good idea on productive sites to plant seedlings in order to supplement natural regeneration.

On good sites, it is important to avoid harvesting high-quality stems too early. High-quality trees can be quite valuable in the veneer market when they reach the required size, commanding several times the price of average sawlogs. It is also important to avoid harvesting stands too late, which can make rot and other costly timber defects more prevalent, as well as making stands more difficult to regenerate.

Bottom line

Oak is a tremendously important wildlife and timber resource in Minnesota. We can grow extremely high quality oak timber on good sites - this is especially true in the southeastern part of the state. Growing high quality oak on productive sites requires good management, however - it rarely happens by accident. Continued and increased investment on public and private lands will be necessary to maintain this important resource.

Sawmill Production Survey Update

We are nearly done with the 2004 sawmill production survey. We will have a more comprehensive article on results next issue after data is entered and analyzed, but a couple of significant items learned so far include:

- Sawmills are struggling like never before to compete with pulpwood- using mills for wood. This is especially true in aspen, but the issue holds across species.
- Quite a few sawmills have gone out of business over the past two years, and more are seriously considering it due to their inability to compete successfully for wood.
- Some of the more successful sawmills are producing custom products and selling them directly to end users.

Secondary Wood Manufacturers Conference "Building the Capacity of Minnesota 's Wood Products Industry: Creating Our Edge"

August 16-17, 2005, Wendigo Lodge, Grand Rapids, MN

Join Minnesota wood products manufacturers and other key players to explore ways to strengthen Minnesota's industry through cutting edge design, superior service and manufacturing capabilities, unique forest resources and untapped financing options. The conference aims to help producers answer the challenges of competing in the global marketplace and is focused on unique issues pertinent to secondary wood product manufacturers.

The conference is being organized under the auspices of the Blandin Foundation's Vital Forests/Vital Communities initiative.

Attendees at last year's conference thought it to be very worthwhile, and said that they would recommend future conferences to friends and colleagues. For more information on the conference, call Mary Magnuson at 218/327-8728 or email vfvc@blandinfoundation.org.

Kiln Drying Short Course

The 28th Annual Kiln Drying Short Course will be held August 15-18, 2005 at the University of Minnesota, St. Paul. This course is designed to provide basic training for dry kiln operators and supervisors, but it is also open to anyone interested in kiln construction, kiln operation and wood-moisture relations.

Instruction will include lectures, demonstrations and "hands on" kiln drying experience. Conventional kiln drying of hardwood lumber will be emphasized; however, dehumidification drying, solar drying, and air-drying, will also be covered. Ample time will be available for group interaction as well as for individual consultation.

For more information, contact Harlan Petersen at (612) 624-3407, fax (612) 625-6286, email harlan@umn.edu.

Great Lakes Kiln Drying Association Fall Meeting

September 29-30, 2005, Minocqua, WI. For more information, contact Harlan Petersen, University of Minnesota, Dept of Bio-based Products, 2004 Folwell Ave, StPaul, MN 55108. Phone: 612-624-3407. E-mail: harlan@umn.edu

Where's the Beef?

Lynn Mizner of our U&M staff sent this short review of a thought-provoking article by Dean Huber, a recently retired Forest Products Specialist with the USDA Forest Service in Durham, NH. The article was published in the June 2005 issue of Timber Processing, and responds to the question, "After a million dollar investment in new optimizing technology, what happened to the expected increase in recovery?"

Huber's thesis is that anticipated increases in recovery of lumber from the resource are often less than expected. He looks at a series of probable causes throughout the sawing process from stump to lumber-wagon. He calls these, "innocent losses" because of their causes, but demonstrates that they can be costly.

The writer challenges sawmill operators to consider the following kinds of losses that may prevent full realization of the anticipated benefits from investments in optimizing technology. Each item is illustrated with examples and tables showing loss in lumber value as a percentage and a real dollar value.

- Losses caused during timber harvesting (stump pull and breakage)
- Losses caused by mechanical damage during log sorting, handling, storage, and debarking
- Losses related to the log scaling process
- Losses due to systematic sawing events (assumptions about how a machine is operating)
- Losses due to sawing patterns that predispose drying degrade (loss in value despite gain in volume)
- Losses due to drying degrade
- Losses related to lack of skilled people, and related to the negative attitudes of people (workers)

Huber concludes that computer optimization may increase the physical conversion of logs into lumber, but actual recovery is affected by events in the entire sawing operation. Electronic scanning and computer optimizing systems are based on the assumption that the presented condition of the log or lumber is the best it can be; they (the systems) don't "know" what could have been if human-caused degrades did not exist. Investment in, and use of high tech systems is not a cost-effective remedy for poor processing practices i.e., "The day you have the greatest production may be the day you lost the most money!" Finally, he encourages operators to start with the basics: the attitude of well-trained and motivated personnel, and assuring that every processing center is operating correctly and efficiently. The web site for Timber Processing is www.timberprocessing.com



Forest Products Wanted

- WANTED (1) Fresh cut red & white pine logs up to 20'. (2) Fresh cut jack, red & white pine bolts. Call for specification and log lengths. Contact: Jay Dauner, Cass Forest Products; Cass Lake, MN; Phone: (218) 335-2694; Email: cass@paulbunyan.net.
- WANTED Wood by-products in the Midwest, including sawdust, bark & woodchips. Contact: Joe Wolfgram, Westwind Logistics, PO Box 96, Randall, IA 50231; Phone: (515) 328-2195; Fax: (515) 328-3304; Email: jwolfgram@shodust.com.
- WANTED 6/4 low-grade hardwood lumber for stake manufacturing, 6" & 8" widths. Contact: Bob at R. A. Montgomery Co, Phone: (610) 621-2893; Email: ramco@juno.com.
- WANTED Cottonwood, oak & ash logs. Contact: Dave Lee, Pallet Man, 2035 Stark Rd, Harris, MN 55032; Phone: (651) 214-3668.

WANTED Hardwood saw bolts & mini-bolts. Contact: Jay Dauner, Cass Forest Products, Phone: (218) 335-2694; Email: cass@paulbunyan.net.

Equipment Wanted

WANTED S-8A International cable skidder for parts. Contact: David Westergren, Northern Timber, 7115 237th Ave NE, Stacy, MN 55079; Phone: (651) 462-6076.

WANTED (1) Log cabin tooling for Pendu saw. (2) Late model pallet mfg. equipment. (3) Wooden stakes & shavings bagging equipment. Contact: Bob, R.A. Montgomery Co; Phone: (610) 621-2893; Email: ramco@juno.com.

WANTED (1) Headblock for Enterprise saw mill (old cast iron). (2) Shingle mill. (3) Surface planer, 15". Contact: Louie Job, Louie's Sawmill, 511 Park St, Anoka, MN 55303; Phone: (763) 422-9198; Email: louiejob2@men.com.

WANTED Older 4-sided thickness planer, capable of planing 22" wide X 8" thick. Contact: Clarence Nikle, 2017 Demers Ave, Grand Forks, ND 58201; Phone: (701) 739-0505; Fax: (218) 773-4370.



Forest Products For Sale

FOR SALE Northern white cedar products: (1) Cedar cabin logs. (2) 8' to 16' logs. (3) 4" x 4" x 8'. (4) Mantels. (5) 3" x 3" x 8' logs. (6) Specialty logs & burls. Contact: Duane Maki, Maki Wood Products, 36591 Co Rd 39, Deer River, MN 56636; Phone: (218) 246-8738; Email: makidm@paulbunyan.net.

FOR SALE Air dried lumber 800 bd. ft., 4/4/ red oak, butternut, 6/4 basswood. Contact: Arlan Henderson, 37494 Henderson Dr, Houston, MN 55943; Phone: (507) 896-2205.

FOR SALE Northern white cedar products: (1) Log furniture material. (2) Round & sawn log home timbers. (3) Lumber. (4) Fence posts. (5) Woodchips. (6) Bark & sawdust. (7) 4"-5" x 8' rough cedar posts, \$125/cord. Contact: Richard Hufnagle, Page & Hill Forest Products, Inc, 7556 Co Rd 31, Big Falls, MN 56627; Phone: (218) 276-2251; Fax: (218) 276-2352; Email: pagehill@citlink.net.

FOR SALE (1) Reclaimed Douglas fir timbers sawn to your specifications. (2) Timber frame structures made from reclaimed douglas fir; trusses, floor joists, whole house, also custom entrance doors. Contact: Ken Peter, Timber Ridge Woodworking, 3703 Hautala Rd, Cloquet, MN 55720; Phone: (218) 879-6665; Fax: (218) 879-6665; Email: kimbah4@msn.com.

FOR SALE (1) Plywood, OSB, particleboard, and/or MDF cut to size or shape according to your specs. (2) Plywood blocks for pallets. Contact: Joe Campbell, Steel City Lumber Co, PO Box 36189, Birmingham, AL 35236; Phone: (800) 733-1907; Fax: (205) 733-1709; Email: joecampbell@bellsouth.net.

FOR SALE (1) 20,000 bf rough lumber. (2) Small-diameter red pine logs, 1"-4", 8' long. Contact: Lumber Jack, Thompson Lumber, 9810 S Thompson Rd, Foxboro, WI 54836; Phone: (715) 399-2783.

- FOR SALE White oak planking, cut to your specs; Contact: John E. Gingerich, 14321 Fremont Dr, St. Charles, MN 55972
- FOR SALE (1) 5,000 bd ft winter-cut white oak logs or timbers. (2) 8,000 bd ft 100" white oak logs. (3) 4,000 ft 1/2" red elm & grey elm T & G paneling, 5" width. (4) 10,000 bd ft Sel. 4/4/ cherry, walnut, butternut, ash, maple & red oak (air dried 15 yrs). (5) 8,400 bd ft 1/32" red oak veneer, rift cut, figured \$.80/sq ft. (6) Birds eye elm, 1664 sq ft (52 sheets) 1/4" plywood. (7) Birdseye elm, 896 sq ft (28 sheets) 3/4" plywood. (8) 2,000 ft basswood T&G paneling, 4", 4 1/2", 5" side width, \$.75/sq ft. (9) 3,000 ft red oak WP4 T&G, 3" & 5" wide, \$1.40/sq ft kiln dried. Contact: Jack Lewison, 330 S. Park, Mora, MN 55051; Phone: (320) 679-4092; Email: Lewison@ncis.com
- FOR SALE 50,000 bd ft cottonwood lumber, full cut dimensions, mostly 2", some 1". Will saw to your specs. Will re-saw salvaged timbers. Contact: Loren Strei, 3835 121st Ave, Ortonville, MN 56278; Phone: (320) 839-2057.

Equipment For Sale

- FOR SALE (1) Allis-Chalmers diesel power unit w/clutch & pulley, \$600. (2) Michigan 175A front loader w/4 1/2 yard bucket, \$5,000. (3) Galion T500A grader, needs engine work, \$2,000. (4) D6 Cat w/dirt blade & shop-built brush rake, \$3,000. Contact: Duane Maki, Maki Wood Products, 36591 Co Rd 39, Deer River, MN 56636; Phone: (218) 246-8738; Email: makidm@paulbunyan.net.
- FOR SALE (1) Tract-O-motive loader model #11, rear steering loader, built by Allis Chamlers, 11/8 yard bucket, weights 12,500#. Contact: Ken Peter, Timber Ridge Woodworking, 3703 Hautala Rd, Cloquet, MN 55720; Phone: (218) 879-6665; Fax: (218) 879-6665; Email: kimbah4@msn.com.
- FOR SALE Sawmill & planer equipment; (1) 48" circular saw w/carriage & electric set works. (2) Woods moulder/planer, 134M, 25 hp top, 15 hp sides. (3) Percision chipper, 100 hp low voltage starter & shaker. (4) Gang saw/edger, 150 hp infeed outfeed. (5) Nyle L-500 dehumidification dry kiln, 15,000 bf w/fans & controls. (6) Strapping machine, BNC Ind. model SM50. (7) Pettibone grapple super 10 diesel. (8) Pettibone carylift forklift. (9) Barco C-10 debarker. (10) Tenor end matching machine. (11) Sawdust chains. (12) Blowers. (13) Conveyor belts. (14) Trim saws. Contact: Pete or Dave, Latvala Sawmill, 835 First St, Nashwauk, MN 55769; Phone: (218) 885-1910; Email: 1.lumber@mchsi.com.
- FOR SALE (1) Bantam notcher. (2) Cut & go bandsaw dismantler. (3) Trim-trac end trim saw. (4) 6 - nail guns. (5) 10 boxes coil nails. (6) Pallet jack. Contact: Rick Cordie, Hathaway Tree Recycling, 2564 50th Ave NW, Rochester, MN 55901; Phone: (507) 282-4777.
- FOR SALE (1) Two: Galaxy 23.1"-26" tires, \$500 each. (2) Gearmatic winch, make offer. (3) MF 220 skidder for parts, make offer. Contact: David Westergren, Northern Timber, 7115 237th Ave NE, Stacy, MN 55079; Phone: (651) 462-6076.
- FOR SALE (1) Bark processing plant. (2) Cornell blowers, edgers, trimmers, notchers, slabsaws, log cleaners, unscrambler, decks. (3) Valby wood chippers. (4) Farmi skidding winches. (5) Hitachi power tools & chains. (6) Patz conveyors & belts. (7) Lacey-Harmer laser lights. (8) Danco rip saws. (9) Webster vibrating conveyors. (10) Jonsered chainsaws. (11) Dixon sawmills, edgers, conveyors, log turners, hydra-dogs, pallet notchers, debarkers, slab

edgers, trimsaws, decks, rollcases, small hydraulic loaders & trailers. (12) Trailers w/loaders for 4-wheelers. (13) Safe-T-Shelters, storm shelters. (14) Over 100 used electric motors & electrical equipment. (15) Used sawmill machinery. Contact: Rusch Equipment Sales, 400 Rusch Rd, Antigo, WI 54409; Phone: (715) 627-4361; Fax: (715) 627-4375.

- FOR SALE (1) Norcot pavement grinder. (2) Morbark stac trac. (3) Newman KM-16 trim saw. (4) Arasmith salvager hog w/50x50 opening. (5) Prentice model 150 stationary loader w/5th wheel. (6) Rodgers un-nailer w/10" blades. (7) Rip-jac over & under pallet dismantler. (8) Waechter band resaw. (9) Williams C-32 No-Nife hog. (10) Lauderdale Hamilton super chop pop up trimmer. (11) Newman chamfering machine. (12) Cornell double arbor resaw w/cut up system. (13) Cornell remote trim saw. (14) Cornell cant sizer. (15) Pendu diesel powered M5000 gangsaw w/log cabin tooling. (16) Pendu diesel powered A5000 double arbor resaw system. (17) Pendu A4000 w/cutoff. (18) Brewer gang saw. (19) Wilson 4 strand unscrambler w/corley package deck. (20) Woodpower grinder Mod T-60. (12) Morbark waste recycler. (22) Hempstead low speed whole pallet grinder. (23) Keystone stake pointers, manual & automatic. Contact; Bob from RA Montgomery Co; Phone: (610) 621-2893.
- FOR SALE (1) 15 – boxes 100 ea of new #3 saw bits (American Saw Co), \$55.00 ea. (2) 12 – boxes 100 ea of new #2 1/2 saw bits (American Saw Co), \$55.00 ea. Contact: Glen Scribner, Mellen Cedar Mills, Rt 1, Box 96-BB, Mellen, WI 54546; Phone: (715) 274-6063.
- FOR SALE Hoyt & Brother planer, #33A 19" wide, 12" high w/bearings top & bottom on side heads. Motorized w/elect motor, \$3,500. Contact: Martin Johannessohn, Johannessohn Sawmill, 41842 445th St SE, Lengby, MN 56651; Phone: (218) 668-2804. (Best to call in the morning).
- FOR SALE (1) Clark forklift, 4,000#, O.H., \$3,500. (2) JD 420 collector wheel tractor, \$4,000. (3) 48 volt hydraulic pump unit, \$150. Contact: Lumber Jack, Thompson Lumber 9810 S Thompson Rd, Foxboro, WI 54836; Phone: (715) 399-2783.
- FOR SALE (1) Three point hitch forest equipment. (2) Farmi skidding winch. (3) Valby wood chipper. (4) Majaco log loaders. (5) Log trailers. Contact: Dave Grinnell, Arrowhead Wood & Forest Services, 1592 Olsonville Rd, Carlton, MN 55718; Phone: (218) 384-3325; Fax: (218) 384-3521; Email: dtgrinnell@netzero.com.
- FOR SALE Jackson verticle edger. Contact: Jackson Lumber Harvester Co, Inc, 830 N State Rd 37, Mondovi, WI 54755; Phone: (715) 926-3816; Fax: (715) 926-4545; Web: www.jacksonlbrharvester.com.
- FOR SALE Used parts for (1) skidders, small crawlers and excavators. (2) Parts for CAT, JD, IHC, AC, MH, TF, Athey, Bantam/Koehring, Insley, Leiberr, Michigan, Mitsubishi, New Holland, New Process, Pettibone, Taylor and Trojan. (3) Engines, transmissions & tires. Contact: Jim or Kevin, Schafer Enterprises of Wolf Lake, Inc, PO Box 136, 4535 State Rt 3 N, Wolf Lake, IL 62998; Phone: (800) 626-6046 or (618) 833-5498; Fax: (618) 833-7765; Email: parts@sewlparts.com; Website: www.sewlparts.com.
- FOR SALE (1) 2001 JG 648G III dual arch grapple skidder. (2) 2000 JD 648G III single function. (3) 2001 JD 548G III. (4) 1998 JD 648G. (5) 1997 JD 548G. (6) 1994 JD 548E. (7) 1996 TJ 240B cable. (8) 1984 TJ 230 cable. (9) 1982 JD 440C. (10) 1998 Hood 20,000 knuckle boom w/center 18' buck saw. (11) 1998 Prentice 210E. (12) 1998 JD 643D w/Koehring 22" saw head. (13) 2000 Timbco 445 w/quadco 28" saw head. (14) 1996 Velmet 508 w/18" saw head. (15) 1993 JD 444E w/forks & bucket. (16) 1996 Case 580SK w/4 wheel drive back-

hoe. (17) 1983 JD 450C 6 way blade. (18) Hurdle portable saw mill. (19) Edmondson 6" hydraulic edger w/laser lights. (20) Morbark 48" chip pack. (21) Percision 636 debarker w/ deck & sweep. Contact: Weber Forest Machinery; Phone: (615) 373-8809.

FOR SALE (1) 18" & 22" Roto-saw heads w/tilt, \$3,500 & \$4,900. (2) 1978 TF C6D cable skidder, 24.5"x32" tires & chains, \$11,500. (3) 1978 Clark 667c cable skidder, 24.5"x32" tires & chains, \$11,500. (4) 1964 TJ 200 cable skidder, gas engine, 16.9"x30" tires, \$7,000. (5) New skidder chains & used parts. Contact: Carl Huber, Huber Logging, Box 31, Mine Center, Ontario, Canada POW1HO; Phone: (807) 599-2835; Fax: (807) 599-2822.



Services and Miscellaneous

- SERVICES Structural engineering, log & heavy timber frame homes, unusual foundation problems solved. MN & WI registration. Contact: John Wilkinson, Consulting Engineer, 604 2nd Ave N, Sartell, MN 56377; Phone: (320) 253-1019; or (563) 547-1078.
- SERVICES Custom lumber sawing in SE Minnesota, portable or stationary mill. Contact: Dave Axley, Edgewood Lumber, 5810 Hwy 42 NE, Elgin, MN 55932; Phone: (507) 876-2780.
- SERVICES Manufacture wood items to customer specification: dowels, plugs, wedges, blocks, handles, knobs, legs, moldings, balls, cases, rollers, spools & shaping. Contact: Ed Koelbl, American Wood Working Co, Inc, Montello, WI 53949; Phone: (608) 297-2131; Fax: (608) 297-7124; Website: www.americanwoodworkingco.com.
- SERVICES Low impact horse logging. We like small tracts of stumpage. Contact: Jason Waldron, Waldron Logging, 30882 Cty Rd 525, Effie, MN 56639; Phone: (218) 743-3023; Email: moomooyanker@yahoo.com.
- SERVICES (1) Reconditions; Montgomery hog teeth, anvils, rings & Zeno grinding machine cutter. (2) Hydraulic repair to; pumps, cylinders & gates hose. Contact: G&G, 2525 Westbrook, Magnolia, OH 44643; Phone: (330) 866-9764; Fax: (330) 866-5225; Email: hgg9407@aol.com; Website: <http://www.GGRepair.com>.
- SERVICES Custom saw milling at my location w/bandsaw. Contact: John E. Gingerich, 14321 Fremont Dr, St. Charles, MN 55942.

Utilization & Marketing Staff: All staff other than Keith Jacobson are part-time on U&M.

Keith Jacobson, U&M Program Leader, St. Paul, 651-296-6491 Email: keith.jacobson@dnr.state.mn.us

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Lance Sorensen, Southern Region U&M Staff, Lake City, 651-345-3216 Email: lance.sorensen@dnr.state.mn.us

Greg Russell, RC&D Forestry Coordinator, Willmar; Phone: 320-231-0008; Email: greg.russell@dnr.state.mn.us

DNR Forestry Timber Auction Sales

Date	Auction Type	Sale Name	Location
Jun 29	Regular	Sandstone Area	Rutledge City Hall
Jun 29	Intermediate	Sandstone Area	Rutledge City Hall
Jul 14	Regular	Cloquet Area Decorative Tops	Floodwood DNR Forestry Office
Sep 08	Regular	Camp Ripley Regular Auction	Range Control Building
Sep 12	Regular	Winona, Houston and Fillmore Counties	Rushford Fire Hall
Sep 16	Regular	Bemidji Area	Bemidji Area DNR Forestry Office
Sep 20	Intermediate	Park Rapids/Detroit Lakes Area	Park Rapids Env. Ed. Building
Sep 20	Regular	Park Rapids Area	Park Rapids Env. Ed. Building
Sep 22	Regular	Little Falls Area	Onamia DNR Forestry Office
Sep 22	Intermediate	Little Falls Area	Onamia DNR Forestry Office
Oct 04	Regular	Two Harbors Area	Silver Bay City Hall
Oct 04	Intermediate	Two Harbors Area	Silver Bay City Hall
Oct 25	Regular	Baudette Area	Baudette Area DNR Forestry Office
Oct 25	Intermediate	Baudette Area	Baudette Area DNR Forestry Office
Nov 01	Regular	Cloquet Area	Cloquet Area Forestry Office
Nov 01	Intermediate	Cloquet Area	Cloquet Area Forestry Office
Nov 03	Intermediate	Littlefork Area	Littlefork Community Building
Nov 03	Regular	Littlefork Area	Littlefork Community Building
Nov 07	Regular	Aitkin Area	Long Lake Conservation Center, Palisade
Nov 07	Intermediate	Aitkin Area	Long Lake Conservation Center, Palisade
Nov 15	Regular	Deer River/Effie Area	Big Fork Community Building
Nov 15	Intermediate	Deer River/Effie Area	Big Fork Community Building
Nov 16	Regular	Blackduck Area	Blackduck Senior Center
Nov 16	Intermediate	Blackduck Area	Blackduck Senior Center
Nov 16	Regular	Orr-Tower Area	Orr American Legion
Nov 16	Intermediate	Orr-Tower Area	Orr American Legion
Nov 17	Regular	Warroad/Wannaska Area	Warroad Area DNR Forestry Office
Nov 17	Intermediate	Warroad/Wannaska Area	Warroad Area DNR Forestry Office
Nov 17	Intermediate	Hibbing Area	Ironworld, Chisholm, MN
Nov 17	Regular	Winona, Houston and Fillmore Counties	Rushford Fire Hall



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