



Understanding the economic value of Wisconsin forests.



Marketplace Matters

Wisconsin's forest products firms



How they keep pace with the global marketplace.

Exhibit A: An oak dining room set, four chairs and a table, with dovetailed joints and an oiled finish, made by Richardson Brothers of Sheboygan Falls, Wisconsin. Price: \$1,750.

Exhibit B: An identical set of chairs and table, similar construction, similar finish, made in China and imported to the United States. Price: \$1,200.

Which one would you buy?

Most U.S. homeowners, faced with a mortgage, two kids and \$1,000 in bills every month, would choose the cheaper. When that scenario actually unfolded a few years ago for Richardson Brothers, the family had to make a tough decision.



The company, founded by great-great-great-grandfather Joseph Richardson, was losing money on every chair it sold.

"You can't lose seven figures every year and stay in business," says Jim Richardson, president of Richardson Brothers, a division of Richardson Industries. Nearly 200 jobs and the com-

pany's survival were at stake. The family decided to move all furniture manufacturing to China, and, initially, South America. Now they, too, sell dining room sets for \$1,200 and their furniture sales have rebounded.

Unfortunately, Richardson Brothers is not an isolated case. Other forest industries in Wisconsin are feeling pressures brought on by forces beyond the U.S. borders.

China is not the only competitor. Canada, with its favorable exchange rate and lower fringe benefit costs, has



CLOCKWISE FROM LEFT: DAVID L. CHESEMORE, KATHERINE ESPOSITO, ROBERT QUEEN, MIKE LUEDEKE

about a 30 percent competitive advantage compared to similar firms in the United States.

In the papermaking business, 5,000 jobs have been lost since 2000, as big foreign firms bought Wisconsin companies and closed less profitable mills. Forest products have always been closely linked to the global economy, even more so since passage of the North American Free Trade Agreement.

Lost jobs also mean less income tax that pays for public services like roads, police protection and libraries.

The United States, for 100 years a world manufacturing powerhouse, has paid a price for its success: Aging industrial machinery costs more to run and produces less per hour than newer, computer-operated equipment being installed in brand-new factories elsewhere. High salaries and good health insurance are unheard of in many developing countries. And, over the past two decades, stringent environmental laws have protected our water, air and soil. These factors add extra costs to any product on a store shelf.

China has less strict environmental laws and worker safety laws are weaker. But more critically, Chinese products of any kind cost less to make and sell largely due to the country's abundance of workers — 150 million rural Chinese have no jobs — and the jobs that are available pay far less than in the U.S. A worker in Shanghai, where much furniture is built, is paid about \$2 per hour, which is considered a working wage.

Wisconsin, with its abundance of timber and historically strong manufacturing base, epitomizes the pattern of change in U.S. forest industries. Firms like Richardson Brothers and Kretz Lumber Company of Antigo were

owned by local families, employed workers from nearby towns and got their trees from area forests.

How can Wisconsin companies keep up? The strategies differ by industry. Furniture maker Richardson Brothers figured that Chinese workers could make a chair according to their specifications at half their current cost.

In Antigo, wholesaler Kretz Lumber has maintained a focus on wood quality and timely delivery. Long ago, Kretz learned that some clients were willing to remodel their kitchens with cabinets made of beautiful, clear hardwood. Well-appointed kitchens are a big part

residue is made into "liquid smoke" for cooking and wood scrap is burned to heat buildings.

Their strategies have worked. The firm's Wisconsin workforce has grown from 30 to 165 since 1987.

"Our quality is something we really hang our hat on," says Tim Kassis, Kretz sales and marketing manager.

The company also keeps its finger on the pulse of the world lumber market. On a recent trade mission to China, Kassis attended a wood products trade show and instructed Chinese lumber buyers on how to judge wood quality. At some point, the Chinese public may prefer Midwestern clear hard maple, too, he thinks.

When it comes to immediate market influence, however, some players wield enormous clout. One is Time Warner, Inc., publisher of mega-magazines *Time*, *People*, and *Sports Illustrated*, and purchaser of 650,000 tons of paper every year from 53 paper mills around the world, 26 in the United States.

About three years ago, Time Warner's publishing arm told its paper suppliers that it would no longer accept paper that was not acquired from "certified" woods. "Certification" is a seal of approval indicating that trees have been grown and logged according to modern, ecologically advanced

principles. That decision reverberated through the industry, as periodical printers passed the request on to pulp suppliers. Those, in turn, started to look for wood from certified forests.

Initially, Wisconsin's publicly-owned forests did not carry that seal of approval, though public and much private land was managed according to the same principles as certification demands.

Last summer, however, private forest lands in the Managed Forest Law pro-



Kretz Lumber Company of Antigo competes in the world market by using quality wood from well-managed forests and assuring timely delivery.

KATHERINE ESPOSITO

of home values. So, Kretz foresters search northern Wisconsin and Michigan's Upper Peninsula for well-managed forests of hard maple to meet those desires, then mill the lumber and glue it up to form rough cabinet panels. The panels are then shipped to cabinet-making firms.

Kretz cuts other grades of maple, basswood and birch for wood flooring and boards, as well as many other products. None of the tree is wasted: lower quality pieces go for pallets and mulch,



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gram — 1.9 million acres — received the certification label, acknowledging the good practices on which DNR had insisted. These certified private lands joined the certified state and county forest acreage, bringing the total certified forests in DNR-administered programs to about five million acres. The hope is that with Time Warner as a guaranteed customer, the wood from these lands will receive good management and provide an economic boost to Wisconsin as well.

Back in Sheboygan Falls, the Richardson family knows they won't be returning those furniture-making jobs from China any time soon, but the bell has not yet tolled for products made from American labor. Three years ago, the firm developed a specialty line of yacht furniture and started shipping it to boat makers in Florida. There, they compete mostly with Italian manufacturers, and the playing field is more even. Chinese companies, with mass markets in mind, have thus far shied from product lines with narrow appeal.

About 60 people have been hired to fill those jobs, Jim Richardson says, almost a third of those are former Richardson employees.

Making the choice to outsource American jobs was tough, especially in a city like Sheboygan Falls where everyone knows everyone else, Jim Richardson acknowledges. "It's a small town, and I still have to go down to the gas station and run into the people working at the mini-mart who used to work in the assembly department," he says.

But being a business owner in a tight global economy requires a broad vision and flexible approach. All forest products companies should take that to heart, he thinks. Change is the norm in the business world but what's unique about the forest products business is the degree of long-term planning that goes into every decision. Every tree that germinates today will take half a human lifetime or longer before it's ready for harvest.

Now that Richardson's company has success in China, furniture manufacturing is moving once more, this time to Vietnam. To keep competitive, Richardson Brothers will adapt and change. Again.

"It's not like we made the decision to go to China, and will sit on it and everything's going to be fine," Richardson says. "The pressure is continuous."

Wisconsin's forest industry pays

Wisconsin's forest products industry:

- is a \$28 billion industry and represents eight percent of the state's total industrial output (including printing and publishing).
- provides 96,000 manufacturing jobs.
- is the nation's second largest investor in forest industry capital equipment, \$811 million annually, 20 percent of all investment in Wisconsin manufacturing.
- provides high paying, high skilled jobs, paying an average \$38,000 annual salary, compared to the state average of \$30,000. The average paper mill worker earns \$49,000 annually.
- is the backbone of 1,800 companies. Wisconsin is the number one papermaking state in the nation and has been for 50 years.
- produces more than 5.3 million tons of paper and over 1.1 million tons of paperboard annually.
- sees that about 91.5 percent of the state's timber harvested stays in Wisconsin to be used by Wisconsin manufacturers.
- employs one in every eight workers in manufacturing jobs. For every 10 jobs in the forest products industry, an additional 16 jobs are produced in other sectors of the state's economy.

The forest of tomorrow... grows from today's choices.

What drives the forest products marketplace? You, the buyer, do. Installing a new wood floor? Kretz Lumber of Antigo sells hard maple flooring harvested from well-managed forests of Wisconsin and Michigan. From another supplier, however, you could buy flooring made of tropical Indonesian merbau trees, alleged to have been logged illegally.

Looking for a sleek hall table? A popular retail website offers one handcrafted from the endangered makore wood, also known as cherry mahogany, found in the wet evergreen rainforest of West Africa. But from the same store, you can find one made from maple, a common species in Wisconsin. Or you might be considering one made from metal or plastic.

The birth and death of industries and forests ride on thousands of individual decisions like these. Advocates of "intelligent consumption" believe that buyers should know the environmental impact (the "eco-print") of a particular product to help guide them to wiser choices.

When Aldo Leopold was associate director at the Forest Service's Forest Products Lab at Madison in 1928, he wrote of the need for responsible consumption. "The American public for

many years has been abusing the wasteful lumberman. A public which lives in wooden houses should be careful about throwing stones at lumbermen, even wasteful ones, until it has learned how its own arbitrary demands as to kinds and qualities of lumber, help cause the waste which it decries...."

The Intelligent Consumption Project (ICP), an effort of the Wisconsin Academy of Sciences, Arts and Letters and the United States Department of Agriculture Forest Service, explores the role that informed consumer choices can play in shaping conservation policy, practice and ultimately our landscape. The expected increase in the world's population will present unprecedented challenges. According to the ICP, per capita wood consumption in the United States is twice



ROBERT QUEEN



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DAVID L. CHESEMORE

The global marketplace calls for more wood that is certified, meaning that from the tree planting to harvest and through production, the forest has been managed in accordance with sustainable forestry principles. (Bottom right) Aldo Leopold's shack still stands. During his stint at the Forest Products Lab, Leopold advocated for responsible consumption.

the average for other developed countries and roughly three times the worldwide average.

Given population trends, forest ecosystems will be pressured even in the absence of increased consumption. Sharp reductions in forestland per capita virtually ensure escalating conflict over forest uses. Yet, wood remains a good consumer choice because it is renewable, recyclable and available in many species and sizes. It has a high ratio of strength to weight and is durable. Dry wood is insulating, resists oxidation and other corrosive agents, and can be treated with preservatives and fire retardants. The grain patterns make it aesthetically pleasing and wood may be remodeled, repaired and has a high salvage value.

Trees resprout much faster when logging is properly done. The same cannot be said of coal, oil or nonrenewable metals mined from the ground. Once excavated, a copper mine sits empty. Manufacturing wood products also generates less air and water pollution. According to the Temperate Forest Foundation (www.forestinfo.org), as

building materials, steel and concrete require 2.4 times and 1.7 times more energy than wood respectively. They also produce 1.42 times and 1.67 times more airborne emissions.

Stuart Stotts, a Madison resident and Vernon County landowner, says that he was once skittish about logging mainly because of the aesthetic damage that is so immediately visible. But no more, he says.

"We live in houses made of wood. I play a wooden guitar," he says. "The wood has to come from somewhere. It might as well be Wisconsin."

In late 2005, Stotts harvested 10 acres of fully mature red oak, aspen and bitternut hickory according to sustainable forestry and modern logging principles. The harvest, conducted on 10 of his 45 wooded acres, was done according to a personalized management plan created by a professional forester, a deal in which Stotts agreed to tend the woods properly — including periodic tree thinnings — in exchange for property tax relief. The felled trees are being sold to a sawmill and can be certified



Stuart Stotts, a musician and songwriter, used to have reservations about logging, but now harvests part of his woods in Vernon County.

as sustainably grown.

Good management is preferable to no management, Stotts says. "When I look at places that have been [managed sustainably], they're beautiful," he says. "So there's nothing wrong with the aesthetics, except in the short term. In the long run, you get bigger trees, and straighter trees."



Certification critical to industry survival

In the global timber market there is a growing demand for "certified" forest goods that meet environmental, social and economic concerns. Publishers, contractors and other manufacturers are expanding use of certified wood to assure customers that their products are not tainted by timber theft or destructive timber cutting.

To meet this demand and help the state remain competitive in global markets, Wisconsin state, county and many private forests are managed in accordance with acceptable sustainable forestry principles from independent certifying organizations.

In 2004, Wisconsin's entire 512,000-acre state forest program was certified by the two leading third-party auditing systems: the Forest Stewardship Council (FSC) and the Sustainable Forest

Initiative (SFI).

About 2.4 million acres of county forests in Wisconsin counties also have been certified along with nearly two million acres of private land in the Managed Forest Law (MFL) program. The MFL is a voluntary program under which owners of 10 or more acres that have a written forest management plan approved by the Wisconsin Department of Natural Resources pay lower property taxes. The Managed Forest Law program participates in American Tree Farm System (ATFS) Group Certification, designed for smaller forests in private ownership.

The county forest system in Wisconsin also provides more than 6,000 miles of snowmobile, ATV, skiing/hiking

trails and forest roads along with hunting and fishing opportunities. Forest products from these forests also generate more than \$21 million annually in timber sale revenue for the counties and townships encompassing these lands plus an additional \$17.2 million in economic impact.

"Sustainability has been the guiding light for managing our state forests since the hiring of the first state forester in 1904," says Wisconsin Chief Forester Paul DeLong. "Certification puts an independent stamp of authenticity on our commitment to manage all the products the forest provides including recreation, wood products, wildlife habitat, clean air and water to protect conservation values."



Fast forestry facts

How much forested land does Wisconsin have?

Wisconsin's total land area is 34.7 million acres. Trees cover 16 million acres or 46 percent. Most forested land is in northern Wisconsin.

How old are Wisconsin's forests?

Many southern Wisconsin forests were cleared for agriculture by the late 1800s. Forests in the north were heavily cut for timber by the early 1900s. Therefore, almost all the mature trees you see today are less than 125 years old.

Who owns and cares for Wisconsin's forests?

Most forested land in Wisconsin — 57 percent — is owned by individual landowners. Another 32 percent is owned by federal, state, county or tribal governments and 11 percent is owned by forest industry or private corporations.

How much forested land does Wisconsin lose every year?

Wisconsin has been gaining, not losing, forest acreage. Since the 1930s, much marginal crop and pastureland has been planted with trees or reforested naturally, so the state now has more forestland than at any time since inventories began in 1936.

How much wood does the average person use in a year?

About 1,664 pounds, or one log 18 inches across and 25 feet long will meet the needs of an average person annually for building supplies, newsprint, paper, tissue paper, paper towels and more. Hundreds of products you might not think of contain wood fiber like toothpaste and football helmets.

Can't we get our wood products from somewhere else?

Yes, but the alternative would be to use nonrenewable material or wood imported from places that, unlike Wisconsin, may not manage forests in a

sustainable manner. By choosing products made from trees grown in other places we're exporting the environmental impacts of our consumption. Harvesting trees in Wisconsin to meet our wood product needs also provides jobs and revenue for the state's economy. History has shown that the Wis-

Visit
wisconsinforestry.org
and click on
"Kids Corner" to
find the Wisconsin
forestry song
that Stuart Stotts
wrote.

Why is the state's environmental agenda concerned about the forest industry?

In addition to the tremendous contributions of the forest products industry to Wisconsin's economy, the industry is also important to the ecological well-being of our forests. Without these markets, landowners would find it less financially viable to maintain large blocks of forests. Thus the loss of the industry would lead to parcelization and fragmentation of the forest resource. Additionally, forest landowners would be less willing to tackle other issues affecting the ecological health of the forests if the timber income was not available to support the other projects.

How do we know the condition of our forests?

The Forest Inventory and Analysis (FIA) Program of the U.S. Department of Agriculture (USDA) Forest Service provides information needed to assess America's forests. As the nation's continuous forest census, the program projects how forests are likely to appear 10 to 50 years from now. The inventory information can be used in many ways, such as evaluating wildlife habitat conditions and identifying potential risks to forests. The Wisconsin Department

of Natural Resources helps fund the inventory with the goal that it will meet the needs of Wisconsin forest planners and managers. The latest inventory of Wisconsin's forest resources began in 2000.

Highlights

- Total forest land area has remained relatively stable at about 16 million acres since 1996. This is about 46 percent of the total land area in Wisconsin.
- The maple-basswood forest type remains the dominant forest type group in the state.
- The volume of all live trees on forest land in Wisconsin has increased since 1996.
- Aspen was the hardwood species group with the greatest net growing stock volume while northern red oak had the largest net sawtimber volume.
- From 1996 to 2004, the average annual net growth of growing stock increased substantially while removals remained about the same. Growth continues to exceed removals by a wide margin.
- The number of trees dying each year amount to about one percent of the number of growing trees.

Inventory data will soon be posted on the Wisconsin Department of Natural Resources' Forestry webpages along with a history of the FIA program in Wisconsin, the scope of information gathered in the inventory process (landowner survey, timber product output, forest health monitoring and forest habitat classification) and information on the inventory process.

Where can I get more information about Wisconsin forests?

Wisconsinforestry.org — a portal to information, programs and organizations related to forests in Wisconsin.



Wisconsin forests

Dynamic and always changing.

ROBERT QUEEN

The year was 1848, and Wisconsin had just become a state. Cities in the east were growing fast, with nearly every home framed and shingled with wood. Railroads required ties and manufacturers needed wooden boxes to protect their goods. The Midwest timber economy was beginning to boom.

To meet that need, millions of acres of towering northern white pine were logged and shipped downriver. Later, hardwood stands such as maple, basswood and birch were clear-cut. In the south, some forested areas were logged and corn and tobacco plantations took their places.

By 1920, many trees were gone. In their stead loomed miles of raw stump land, which later became a perfect canvas for fire. Hopeful farmers staked their claims and grubbed out the stumps, but the days were short and the soil wrong. The crops didn't grow.

Fast forward to 2005.

You've returned from camping in the Northern Highland-American Legion State Forest, 220,000 acres, boasting over 900 lakes, abundant wildlife and healthy trees. Or, perhaps you listened to wolves howling in the Chequamegon-Nicolet National Forest.

Surely this can't be the same state. What happened to all the stumps?

The answer lies in a story of natural resilience and, after decades of denial, common sense.

The resilience came from the forest: The trees grew back. They weren't necessarily the same species, because growing conditions had changed so dramatically.

However, Wisconsin's forests have rebounded nicely. In 1996, the volume of wood in our forests was 18.5 billion cubic feet, up from 16.5 billion in 1983. That same year, we boasted more 10-foot-or-taller trees (9.8 billion) than we had 13

years earlier (8.4 billion).

That's where human common sense (and political willpower) came in.

One hundred years ago, E.M. Griffith, Wisconsin's first chief state forester, saw a landscape of charred stumps and failed family farms and recognized that something had to change. He offered recommendations, among them creating a forestry research program and forest preserves where the land would revert to trees. At first, Griffith's ideas were rebuffed. Some years later, though, politicians understood their wisdom and the state's forestry program was begun in earnest.

In Wisconsin, careful planning began decades ago and is now paying dividends. In fact, nearly half of our state — 16 million acres — is again forested. Total county forest holdings alone are 2.3 million acres. County forests offer more than 1,200 campsites and thousands of miles of hiking, skiing and snowmobile trails as well as public access to hundreds of lakes and streams.

The Marinette County Forest is one success story. It was among the earliest county forests and today covers 231,596 acres. It is home to deer, bear, grouse and many other species, and is a playground for humans who like to ski, ride horses, pick berries and camp.

Marinette County Forest also provides huge quantities of raw forest products for wood-using industries. From 1936 to 1945, all county forests produced about 125,000 cord-equivalents of wood, with revenue of \$135,000.

Between 1994 and 1998, the amount of wood that came from county forests had jumped to nearly three million cord-equivalents with corresponding revenue of \$46 million.

So what's next?

Modern challenges to our forests come

from issues like invasives and forest fragmentation.

The tree known as buckthorn grows quickly and crowds out more desirable species. The emerald ash borer insect kills green and white ash within three years. Nine million ash trees have already been killed by emerald ash borer, mostly in Michigan, and forest specialists fear that the insect will be in Wisconsin soon.

Less obvious is the damage done by thousands of homeowners who build weekend homes as a refuge against urban stress. Trying to reconcile fragmentation and "back to nature" values with those of the working, growing forest can be tricky.

But Wisconsin public and private forest owners are working together to set standards for tackling these and other challenges. In 2004, the Statewide Forest Plan was created and may be found at dnr.wi.gov and search "Statewide Forest Plan."

"Our state's forestry interests are dedicated, progressive and committed to sustainable forestry," says Wisconsin Chief Forester Paul DeLong, who serves as chair of the steering team for the Statewide Forest Plan. "The people of Wisconsin care deeply about their forests."

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PUB-FR-337-2005

December 2005

Written by: Natasha Kassulke and Katherine Esposito

Design by: Waldbillig & Besteman

Produced under a 2004-2005 grant from the Wisconsin Environmental Education Board with support from Wisconsin DNR-Division of Forestry

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