Volume 32 Number 1

Chips and Sawdust

A quarterly newsletter from the

Forest History Association of Wisconsin, Inc.

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Table of Contents

From The President's Chair

Dear Friends,

If you have not been to the U.S. Forest Products Laboratory in Madison, WI lately, plan on getting there before March 28th!!! USFPL will be celebrating their 100th Anniversary in 2010! The artifacts that were resurrected by USFPL and are on display are worth the trip!!

At USFPL, the Forest History Association of Wisconsin WWII Exhibit is on display and opened at the January 31st Lecture and Reception for the "Wisconsin Flying Trees: Wisconsin Plywood Industry's Contribution to WWII." Your President was the Guest Lecturer as part of the University of Wisconsin Department of Forestry and Ecology Management Hamilton Roddis Lecture Series.

The lecture will be published by UW-Department of Forestry and Ecology Management. For FHAW members, the lecture is an expanded version in the 2006 FHAW Proceedings that covers many of the new discoveries that have been found since the fall meeting! For example, in Wisconsin Rapids thanks to Miles Benson the wonderful Gilbert Endrizzi murals made from the USFPL "Papreg"/Consolidated Paper Company Consoweld paper laminates.

Mark your calendar for the September 14th & 15th, 2007, 32nd annual meeting in Madison. The Friday tours will be exciting and so far, include the U.S. Forest Products Laboratory, Paul DeLong, Chief Forester for the WDNR will be our guest speaker and the UW Arboreteum with an expert tour guide, More will be added. Plan on being at the Friday Auction always a terrifically fun event!!!!

If you have projects you are working on, please let me know for *Chips and Sawdust*!!!

Stay warm!
Sara W. Connor, President

Ford Motor Company, Kingsford, Michigan

By Charles L. Day

Construction of the Ford factory at Kingsford began early in 1920. The area selected for the factory was a few miles south of Iron Mountain, Michigan. The property was acquired for Henry Ford I through the efforts of Edward G. Kingsford the husband of Henry's cousin. E. G. Kingsford was a real estate broker and had a Ford dealership in the area. The village of Kingsford was chartered at the end of December in 1923.

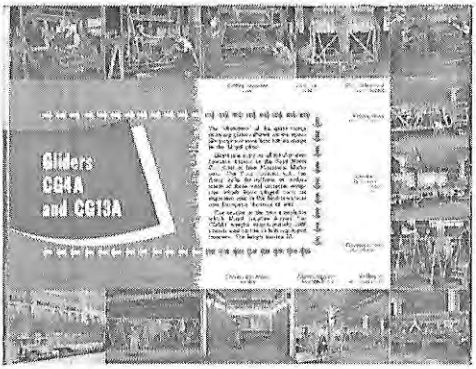
Henry Ford's idea was to build a factory to produce wooden truck and automobile bodies. At this time, a great part of truck and automobile chassis and bodies was made of hardwoods. The total land purchase for this factory involved over 313,000 acres. A proponent of vertical integrated manufacturing, Ford built the factory with its own powerhouse, sawmill, kilns, woodworking shop, assembly shops, chemical plant and carbonization plant - from trees to vehicles all in the same factory. By 1925 the factory was responsible for the employment over 7,500 people in the Kingsford and Iron Mountain area.

Charcoal production at first was charcoal chunks. Later, a process was developed to form the charcoal into briquettes. The charcoal was a by-product made from wood scraps from the vehicle body plant. It was packaged and marketed as Ford Charcoal for use while camping. After Ford sold the factory and the chemical operation, the new owners renamed the charcoal; you guessed it, Kingsford.

By 1940, wood use in vehicles had given way to steel except for certain small delivery vehicles and the station wagon. The factory was virtually shut down. The 1941 requirements for the Army Air Force glider program decreed that aluminum was reserved for power plane production and factories involved in powered aircraft production could not be involved in glider production. By early 1942 the Army Air Force accepted the WACO CG-4A glider design and issued contracts to sixteen different companies as prime manufacturers to build and assemble the glider. Because of the idle Kingsford wood working factory and despite that Ford was building B-24 bombers at the Willow Run factory in southern Michigan, the Ford Motor Company was sought out and given a contract to build CG-4A gliders.

There are more than 70,000 parts or pieces in a CG-4A glider. While the factory revamped to get into glider production, Ford engineers designed and developed the tools necessary for the glider assembly line. Ford developed an infrared lamp heat system to make glue dry in minutes rather than hours. This accelerated Ford's component production tremendously. Despite Ford's size and affinity for vertical integrated manufacturing, other companies such as the Gibson Refrigerator Company of Greenville, Michigan (also a CG-4A prime contractor) made some small parts for Ford gliders. The wood parts for the honeycomb plywood floor, plywood and fabric covered wings and cockpit, plywood bench seats, and stabilizers were built and assembled by Ford at the Kingsford factory.

The tubular steel frames for the cockpit, fuselage and tail sections were sub-contracted by Ford to the Lloyd Manufacturing Company at Menominee, Michigan. Lloyd trucked the finished frames approximately 70 miles to the Ford factory at Kingsford where Ford assembled the gliders. Lloyd was a tubular steel frame furniture manufacturer before WWII. The company produced all of the Ford CG-4A glider frames and CG-13A glider frames for Ford and Northwestern Aeronautical of St. Paul, Minnesota.



To the left is a copy of a page from Lloyd Manufacturing Company's 1944 publicity release brochure describing the company's production for the Army and navy.

Lloyd produced some 1945 contract CG-4A frames for Northwestern. Lloyd also did considerable work for many other Army and Navy contracts such as shell casings, medical carts and stools, theater seating, diesel engine exhaust pipes, Helldiver aircraft engine mounts and B-24 canopies for Ford at Willow Run during WWII.

Although employment for glider production never achieved the high of 7,500, there were approximately 5,000 employed to build the 4,190 Ford CG-4A gliders. 1,400 of these gliders were built and delivered January through July 1945; an average of 200 gliders per month. Not only did Ford build slightly more than 30 per cent of the total number of 13,903 CG-4A gliders, Ford's average cost per glider was just over $15,000.00 each, not including the crating costs. The average overall cost for all of the CG-4A manufacturers was approximately $24,000.00 per glider. Although Ford had nothing to do with the conversion, one Ford CG-4A was converted to one of the XPG-2A powered gliders. Ford also built 87 of the CG-13A gliders.

In addition to building the gliders, Ford built their own wooden crates for shipping their gliders overseas. Each glider required five crates for shipping. Because these crates had to fit into the hold of a Liberty Ship, the longest crate was limited to twenty-five feet five inches long and eleven feet seven inches high. All five crates contained over 10,000 board feet of finished lumber. Depending on the manufacturer, the wood was number one pine or hardwood.

When surplus crated gliders were sold from government depots after WWII ended, the buyers sought the wooden crates not the gliders. Today, there still are cottages in the Pocono Mountains and parts of a warehouse in Lubbock, Texas, built from glider crate wood. During WWII, a bunkhouse for a Boy Scout camp was built from glider crate wood near the glider test base at Wilmington, Ohio. Glider assembly crews at Greenham Commons in England used the large crates for living space. This high quality wood today is very expensive and the gliders are extremely rare.

Wisconsin Wood in World War

Wisconsin State Journal, January 31st
by BARRY ADAMS
608-252-6148 • badams@madison.com

Bob Ross admits to snooping.

But as a college student working at a Marshfield lumber company during the summer of 1978, the exploration of a barn's third floor helped him understand the contribution of Wisconsin's lumber industry to World War II.

Now, almost 30 years after his job at Weyerhaeuser Co., Ross, a project leader and engineer at the U.S. Forest Products Laboratory in Madison, is immersed in history.

The majority is in the form of thousands of research documents compiled by FPL scientists and engineers who have tested and analyzed wood uses for almost 100 years.

Today, Ross will get a Cliffs Notes version of some of that history with the opening of an exhibit that traces the use of plywood for the construction of World War II aircraft.

One type included gliders, parts of which were made from thin sheets of wood veneer clipped to lines to dry in the barn in which Ross and his co- workers liked to explore.

"If you looked around, the clips were there," said Ross. "They made a lot of neat stuff there."

"Wisconsin Flying Trees: Wisconsin Plywood Industry's Contribution to World War II" is the creation of Sara Witter Connor, granddaughter of Hamilton Roddis, who led the Roddis Plywood & Veneer Co. from 1920 to his death in 1960. Witter Connor is also director of education and curator for the Camp 5 Museum Foundation in Laona, about 220 miles northeast of Madison in the Chequamegon-Nicolet National Forest.

The 23-foot-long, 9-foot-high exhibit is on display at FPL beginning today through the end of March. It will then embark on a national tour that includes stops at the Airborne & Special Operations Museum in Fayetteville, N.C.; the Evergreen Aviation Museum in McMinneville, Ore., for the 60th anniversary of the flight of the Spruce Goose and to the National World War II Museum in New Orleans.

Wisconsin plywood manufacturers during World War II controlled 60 percent of the plywood market in the country. And with the help of FPL, waterproof glues and laminates were invented that helped aircraft withstand the tropical humidity of the South Pacific, Witter Connor said.

"The story hasn't been told. It's just been kind of glanced over," Witter Connor, 57, said from her winter home in Whitefish, Mont. "This is the story of the people who worked in the industry."

They included factory workers like Anna Wundrow, whose picture is on the exhibit twice - as a young woman during her working years at Roddis and a more recent photo. Wundrow used an iron to connect pieces of veneer.

"There were glue people that would glue the edges of the panels and we would iron with a flat iron until it made a big panel," Wundrow said in a quote displayed on the exhibit.

"We knew the plywood was going for airplanes," said Verna Fohrman, who started at Roddis in 1941. "It was no secret."

Industries throughout Wisconsin took part in the war effort. Submarines were constructed in Manitowoc, tractors and generators in West Allis and ammunition near Baraboo.

Wisconsin plywood companies supplied glider materials to the Northwestern Aeronautical Corp. in Minneapolis, Steinway & Sons, Pratt-Read Co., Cessna Aircraft and about a dozen other companies that were making gliders for the war effort.

In Madison, FPL helped develop "papreg," a high-strength "paper plastic" used for the floors of the gliders, which were used to haul men and cargo.

"They were light and extremely strong," Witter Connor said of the paper floors. "They could hold a jeep."

The exhibit features a 5-foot by 4-foot piece of a glider wing made from mahogany and manufactured by Roddis for the Pratt-Read Co., which made the "Voo-Doo" glider.

Staff at FPL also dug through archives, closets and offices looking for artifacts from the war era that relate to the exhibit. They include wood propellers, a piece of papreg from a glider and a model of wood shipping crates that FPL researchers helped design. The crates were used to ship rifles, cannons and machine guns overseas.

"It's work like that that led to sometimes tripling the amount of materials in the boxes and getting it there with less damage," said FPL Director Chris Risbrudt. "People don't realize the role FPL played."

Besides gliders, Wisconsin plywood was also used to make the DeHavilland Mosquito, the fastest airplane manufactured for the war. Over 7,700 Mosquitoes were built in 43 variants, including the Sea-Mosquito LR- 359, the first twin-engine airplane to land on an aircraft carrier.

The state also played an instrumental role in the construction of one of the most well- known airplanes ever made but which only got about 70 feet off the water for just under a mile.

Yellow birch for the Hughes Flying Boat, better known as the Spruce Goose - a 300,000 pound cargo plane with a wing span the length of a football field - was harvested from Vilas County and turned into plywood at Roddis.

FPL was asked by Howard Hughes to study the durability of glue joints exposed to water, gasoline, oil and weather; the rates of water absorption or weight increases; and the suitability of spruce and birch for the job.

"This is called civil research military history. People are just not aware of this," said Witter Connor, who worked about 18 months on the exhibit. "It's been a full-time job. I've had a lot of amazing discoveries."

The exhibit is open Monday-Friday from 8 a.m. to 4 p.m. through March 23.

Professional Associations Merge to Protect Regional Forest Products Industry

New "Great Lakes Timber Professionals Association" will incorporate each level of industry

The Wisconsin Professional Loggers Association (WPLA), Timber Producers Association of Wisconsin and Michigan (TPA) and the Forest Industry Safety & Training Alliance (FISTA) announced their intention to merge at the 61st annual Logging Congress in Green Bay. The merger will bring together a wide-range of forest products industry companies, professional loggers and a non-profit safety training and education organization. The Great Lakes region has a long standing history of successfully managing forest resources. The newly-formed association, slated to be finalized January 2007, will combine a comprehensive range of information, resources and services for all sectors of the forest products industry.

Bill Hennigan, current TPA board president, describes the merger as a natural progression. "TPA has worked hard to promote public understanding of the importance of a sustainable forest products industry. This vital industry needs to embrace new markets, new technologies and new incentives to continue growing in the Great Lakes region. It makes sense to combine our areas of expertise under one roof to protect our forest products industry in an ever-changing global economy."

The new association will be named the Great Lakes Timber Professionals Association and will continue to provide its members with knowledge-sharing forums, public hearing testimony, lobbying efforts at the local, state and federal levels, educational programs, professional training, Master Logger Certification and Log-A-Load for Kids, among other industry offerings.

"WPLA is a recognized leader on forestry issues for the past six years. Our active members continue to work on issues to sustain the forest products industry and its economic and environmental benefits to the region," said Matt Jensen, Master Logger and WPLA state president. "The merger makes sense at this time and is a positive step toward reaching our common goal of a unified voice to promote and expand a sustainable forest products industry."

The Great Lakes Timber Professionals Association will continue to offer its high quality "Timber Producers" magazine and run the well-attended, annual event, the Logging Congress. All staff and services will be centralized in the current TPA headquarters in Rhinelander.

"FISTA, a nationally recognized safety and training organization,provides training for safe and efficient production of sustainably managed forest products. This merger will enhance the safety training and educational programs for timber resource professionals and others supporting the forest products industry," according to Al Barden, FISTA board vice chairperson.

Gene Francisco, Executive Director of TPA and WPLA, as well as, former Wisconsin Chief State Forester commends the three organizations for taking proactive steps to ensure the region's forest products industry remains healthy for generations to come. "This merger brings together leading forest products industry organizations to protect a struggling industry in the Great Lakes region and to protect a renewable resource. By leveraging the strengths of each membership base, we will have an industry association that is more effective and more influential," said Francisco.

FIXMER AWARD

Ellsworth Brown, Director of the State Historical Society of Wisconsin presented the 2007 Fixmer Award to John Koning, U.S. Forest Service Assistant Director (retired). The Forest History Association of Wisconsin Fixmer Award is given to an individual for their outstanding contribution to an organization. John Koning is presently writing a history of the U.S. Forest Products Laboratory from 1965 to the present with highlights from the major USFPL projects in product development, its history and accomplishments. Mr. Koning has been active with the University of Wisconsin - Department of Engineering Professional Development - College of Engineering. He has written over 40 papers, including 'Packaging Perspective - 1910-1985.'

Pictured L to R: Ellsworth Brown, Sara Connor & John Koning.

Mr. Koning co-founded and coordinated the Bio-pulping Consortium, an international research consortium. He was a Researcher in paper and packaging and Assistant Director for Chemisty and Paper Research at the U.S. Forest Products Laboratory. He is an Air Force veteran. Koning is a fellow of the Technical Association of the Pulp and Paper Industries. Mr. Koning is a founding member of the Olbrich Botanical Society in Madison and a member of the Wisconsin Woodland Owners Association, the State Historical Society of Wisconsin, as well as a past member of the Society of American Foresters.

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Fall Conference Schedule

(to date)

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20 rooms have been reserved. Room rate is $80 per night.
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FRIDAY, SEPTEMBER 14TH

8:00 AM - Bus pick-up at Comfort Inn
8:30 - Arrive at US Forest Products Laboratory
8:30 - 10:30 - Tour US Forest Products Laboratory
10:30 - 11:00 - Lecture from Paul DeLong, Chief Forester, WDNR
11-11:30 - Lecture
11:30-12 - Lecture
12:00 - 12:45 PM - Lunch
12:55 PM - Bus Departs for UW Arboretum
1:20 - 1:40 Tour UW Arboretum
Check out the website: http://uwarboretum.org
Curtis Prairie • Historical Areas of Arboretum
3:30-4:00 - Lecture
4 PM - Bus Departs for Madison Club
BANQUET AND AUCTION - Madison Club
4:45-6:00 Cocktails and Silent Auction
6:00-8:30 Dinner and Live Auction
8:45-9:00 - Bus Departs for Comfort Inn

SATURDAY, SEPTEMBER 15TH

8:30 AM - Bus departs Comfort Inn
Bus Arrives at State Historical Society of Wisconsin
9 AM - Lecture and a very SPECIAL TOUR by Ellsworth Brown, Director
Noon - Bus Departs for Comfort Inn

Deer a threat to forest health in Wisconsin says chair of Wisconsin Council on Forestry

The following is a letter written to Governor Doyle by Fred Souba, Chairman of the Wisconsin Council on Forestry.

Dear Governor Doyle,

As advisors to you on the state's forest resources, the Wisconsin Council on Forestry feels compelled to express to you our concerns regarding the size of the white-tailed deer population in Wisconsin. From a science-based perspective, the burgeoning deer herd is having a detrimental impact on forest regeneration, health and quality, and on the biological diversity of Wisconsin's forests. There will likely be long-term detrimental effects on forest productivity in Wisconsin if deer population density is not reduced.

The Council believes deer herbivory is a serious problem that if not addressed will affect the sustainability of forestry in Wisconsin. The Council supports the efforts of the Wisconsin Department of Natural Resources to manage the deer herd at the goals identified in the administrative code and believes strongly that these goals should take into account the impact of deer density on forest sustainability.

We understand that the issues surrounding the management of the state deer herd are many and controversial. It is not our intent to debate the details of hunting seasons and techniques. Instead we wish to provide you with a scientific basis on why the deer population is an issue that impacts the sustainability of one of our state's key economic resources, our forests.

The enclosed position paper summarizes the deer population issue from a forest resource perspective. We would be pleased to work with you on addressing this issue as it relates to Wisconsin's forest health and sustainability.

/s/ Fred Souba
Chairman (Wisconsin Council of Forestry)

Points taken from a position paper from the Wisconsin Council on Forestry

Council Position:

*Deer herbivory is a serious problem that if not addressed will affect the sustainability of forestry in Wisconsin.

*The Council supports management efforts of the Wisconsin DNR to manage the deer herd at the goals identified in administrative code. These goals must take into account the impact of deer density on forest sustainability.

*At current goals, deer numbers will have to be reduced in many areas of the state.

The report also says:

Forestry surveys completed by the Wisconsin DNR on forest regeneration successes and barriers gathered these results:

* A 2005 reforestation survey identified deer browse as the most significant barrier to forest regeneration, with 81% of the respondents citing deer browse as a problem.

* A 2006 plantation assessment found that in many plantations deer browse has significantly impacted the growth and survival of hardwood seedlings.

* A 2006 natural oak regeneration survey asked respondents to rate eight different factors regarding oak regeneration. Of the eight factors, more respondents identified deer as a strong to very strong contributor to oak regeneration failure than any other factor.

Summary:

Deer herbivory is increasing in Wisconsin forests causing economic losses by reducing tree survival and growth, and altering species and age class composition. The continued overabundance of deer can directly threaten the future of sustainable forestry. Research in Pennsylvania has shown that future economic impacts are avoidable, and that detrimental ecological impacts to forest plant and animal communities are preventable, but only if action is taken to reduce deer numbers. The opportunity to reduce the economic and ecological effects is within reach if deer numbers are reduced in a timely and strategic manner.

PLEASE TAKE A MOMENT... TO FILL OUT THIS SURVEY

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- ☐ **Printed in hard copy and mailed?**
- ☐ **Only posted on the internet?**
- ☐ **Or both (printed hard copy & internet)**

Please respond by email to swcn6488sc@aol.com

Or mail response to:

Sara Witter Connor
P.O. Box 366
Laona, WI 54541

Forest History Association of Wisconsin, Inc.

- Membership Application -

Please enroll me as a member and participant in the Association's program of developing the educational and historical aspects of Wisconsin's forestry and logging industry. Attached is payment for:

_____ Student Membership ($5.00)

_____ Individual Membership ($15.00)

_____ Family Membership ($25.00)

_____ Non Profit Organization Membership ($25.00)

_____ Corporate Membership ($50.00)

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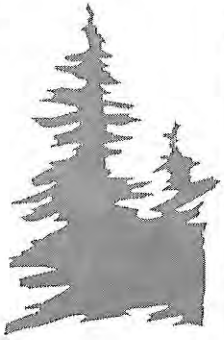

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32nd Annual Meeting
Sara Connor & Miles Benson (Madison)

33rd Annual Meeting
(Western Wisconsin)

34th Annual Meeting
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