

In This Issue

- FPL at Winter Olympics
- FPL's New Director
- Building a Better Home

Also Inside

- Ask FPL
- New and Notable Publications
- On the Calendar

Little Building at Winter Olympics Shows Big Promise

ON OCTOBER 30, 2001, an unusual ceremony was held just outside Ogden, Utah. It was unusual because the star of the show was a small wooden structure. Among those in attendance were USDA Deputy Under Secretary for Natural Resources and Environment David Tenny and Forest Service Associate Chief Sally Collins.

You might think this sounds like a lot of excitement over a little wooden building. But according to Susan LeVan, Program Manager for FPL's Technology Marketing Unit (TMU), this little building represents one small portion of a larger mission—to improve forest health, provide jobs for rural communities, and save money for the American taxpayer.

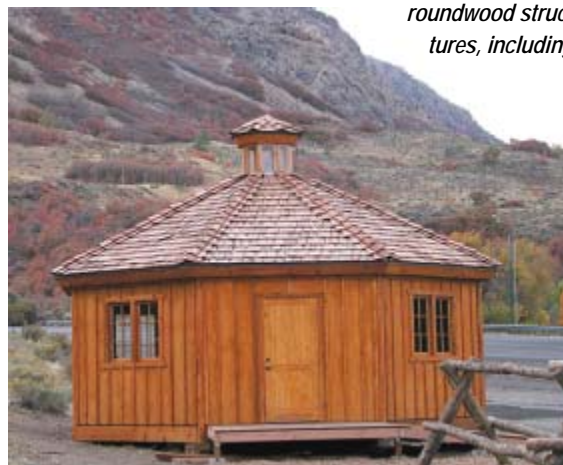
"More than 73 million acres of our National Forests need some sort of thinning treatment to reduce hazardous fuels and restore them to a healthy condition," says LeVan. "But such restoration is expensive; thinning typically costs from \$300 to \$500 an acre. If we can find high value uses for this thinned material, everyone wins. Forest management costs can be offset, jobs can be created, and forest health is improved."

The concept is fairly simple. To improve forest management economics, "We need to use timber for its highest possible use," explains LeVan.

The TMU works with rural communities and a variety of partners, such as utilization and marketing specialists, the forest products industry, state foresters, and universities, to put into use technologies developed by FPL and other USDA Forest Service research units.

(continued on page 3)

Plans are in progress for working with rural communities on other small-diameter roundwood structures, including



a Forest Service museum in Missoula, Montana; a library in Darby, Montana; and a storage shed on the Wallowa-Whitman National Forest.



FPL's New Director

"I am particularly excited about returning to FPL..."



CHRIS RISBRUDT is the new director at FPL. He previously held a number of key jobs in the agency's national headquarters and throughout the

Forest Service including Director of Strategic Planning and Resource Assessment Staff; Director of Ecosystem Management Coordination; Deputy Regional Forester for the Northern Region; and Director of Policy Analysis. In addition, from February through April 2001, he was detailed to USDA's Office of the Under Secretary for Natural Resources and Environment to help with the transition for the new Administration.

But his first job with the Forest Service was as an economist at FPL.

"I am particularly excited about returning to FPL," said Risbrudt. "The Lab has a long history of innovation in

wood products and uses, and I am proud to become a part of that again.

Risbrudt earned a bachelor's degree in 1972 from the University of Minnesota and master's and doctorate degrees from Michigan State University in 1976 and 1979, respectively. He is a member of the Society of American Foresters, Trout Unlimited, Ducks Unlimited, and the Rocky Mountain Elk Foundation. ☞

Wood You Believe...

- that chewing on sassafras twigs stimulates saliva production?
(A good tip for thirsty hikers!)
- that oil extracted from yellow birch bark contains a chemical for treating rheumatism?
- that chopsticks are often made from aspen wood?

NewsLine Team: Gordie Blum, Jim Anderson, Sue Paulson, Judy Patenaude, Sandy Morgan, Rebecca Hoene

Contributors (Winter 2002): Jean Livingston, Karen Berton, JoAnn Benisch, Noreen Esser

Published quarterly by USDA Forest Service Forest Products Laboratory, One Gifford Pinchot Drive, Madison, WI 53705-2398. Articles may be reprinted provided credit is given to the Forest Products Laboratory and **NewsLine**. To receive this newsletter electronically or to be removed from our mailing list, write Public Affairs Director Gordon Blum at the address above or at gblum@fs.fed.us or call Forest Products Laboratory at 608-231-9200.

Check out our website at www.fpl.fs.fed.us

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, sex, religion, age, disability, political beliefs, sexual orientation, or marital or family status. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audio tape, etc.) should contact USDA's TARGET Center at 202-720-2600 (voice and TDD).

To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 1400 Independence Avenue, SW, Washington, DC 20250-9410 or call 202-720-5964 (voice or TDD). USDA is an equal opportunity provider and employer.

Mention of commercial services, products, and firms is for information purposes only and should not be construed as U.S. Department of Agriculture Forest Service endorsement over other products, services, or firms that may be suitable.





Little Building *(continued from page 1)*

LeVan adds that using small-diameter timber in buildings is only one example of a higher value use. Her unit specializes in many others, such as flooring, furniture, and millwork, depending on the needs of the community and the available resources.

The little building at the Olympics—actually there are two—represents some of that work. For the past year, TMU has been working with the 2002 Forest Service Olympic Planning Committee to coordinate construction of two small-diameter (typically 4 to 12 inches) roundwood structures to be used as information kiosks during the Olympics. Each kiosk is about 25 feet in diameter, and the average diameter of the round timbers in the roof trusses is 5 inches.

Wallowa Resources and Bronson Log Homes of Enterprise, Oregon, collaborated in building one kiosk, which is located near the Olympic biathlon and cross-country skiing events.

The second kiosk was built in collaboration with the Bitterroot Resource Conservation and Development Council and Porterbilt Post & Pole of Hamilton, Montana. Located at the mouth of Ogden Canyon, this kiosk will serve as a permanent information center for the Bonneville Shoreline Trail System, the Ogden River Scenic Byway, and other recreation activities on the Wasatch-Cache National Forest.

In addition to providing a warm spot on a cold day, these kiosks contain displays that highlight the stewardship efforts of the sponsoring communities and describe the small-diameter technology used to create them.



“These kiosks represent the continuing commitment of FPL to work with rural communities. We enjoy rolling up our sleeves to get results. Because of this, we’ve been able to develop some very rewarding long-term relationships,” says LeVan.

For more information, check out the TMU website: www.fpl.fs.fed.us/tmu or call Mark Knaebe at 608-231-9422. ☞

FPL's Technology Marketing Unit (TMU) works with rural communities to develop uses for small-diameter timber cut during fuel reduction projects such as this one near Enterprise, Oregon.



A bucking saw cuts a small-diameter log into usable length.

Trimmed logs in Montana stacked and ready for use or further processing.



Improving America's Housing

LAST YEAR, more than 1.5 million single-family housing starts were recorded in the United States. Considering that 90 percent of America's housing is built from wood, using 20 billion board feet of lumber, proper management of this natural resource is essential.



*Research
Demonstration
House*

Since 1910, the Forest Products Laboratory has sought to promote the efficient and wise use of wood through research. "Our mission is to conserve the forest resource by promoting healthy forests and forest-based economies through sustainable use," says FPL Assistant Director Mike Ritter.

A national program called the Partnership for Advanced Technology in Housing (PATH) combines the efforts of 13 Federal agencies—including the USDA Forest Service—and more than 300 industry partners in seeking to accelerate the widespread development and use of advanced housing technology. As a part of PATH, FPL is a lead agency for wood-frame housing, through its Advanced Housing Research Center.

"The Center incorporates many FPL research units towards a common goal—improving the affordability, durability, and energy efficiency of America's housing," said Ritter.

He added, "Research at the Center evaluates technology for all types of residential structures in which wood or wood-based products are used as building components." Emphasis is placed on improving

- use of traditional wood products,
- use of recycled and engineered wood composite materials,
- energy and sound efficiency,
- indoor living environments, and
- natural disaster resistance.

"FPL has long been recognized as a world leader in wood-frame housing technologies. With our expertise and the help of many partners, we can help solve some of today's tougher housing problems, like moisture intrusion and durability," said Ritter.

Other Center projects include the following:

- Using recycled lumber—About 250 million board feet of lumber is available for reuse from vacant military buildings and more than 200,000 housing units that are demolished each year in the United States. However, acceptance of this reclaimed lumber for reuse is hampered by the lack of grading rules, engineering property data, and grade stamps. Results from this research will develop reuse options that will help increase the use and market value of recycled lumber in today's construction industry and reduce the amount of wood waste in our nation's landfills.
- Underutilized woods—In the western United States, there are many stands



of small-diameter, densely stocked trees. Such stands need to be thinned to improve forest health and reduce the risk of catastrophic wildfire. One prevalent species in these stands is ponderosa pine. FPL research will evaluate the engineering properties of glue-laminated (glulam) beams made with mechanically graded ponderosa pine. Trade associations will use these results to verify design values and develop standards, enabling the use of ponderosa pine in value-added structural products.

- Wood-plastic lumber durability— Estimates are that the use of

wood-plastic building products will increase 50 percent each year for the next 5 years. These composites have environmental advantages, such as diverting wood and plastic from waste streams and continuous recycling of the scrap produced during processing and installation. Further research is needed to improve processing and better understand how additives improve durability and protect against fungal attack. ☞



FPL's Research Demonstration House

FOR THE past year, FPL's Advanced Housing Research Center has worked with APA-The Engineered Wood Association and the Southern Forest Products Association to build a 2,200-square-foot house on FPL grounds in Madison, Wisconsin. The purpose of the house is to educate builders and consumers about better building practices and to showcase numerous ways to improve the affordability, durability, and energy efficiency of our nation's housing.

Many products developed at least in part by FPL, such as I-joists, glue-laminated beams, and finger-jointed studs (many of which are used in home construction today), are on display in the home.

A new product being field-tested on the house is shingles made from recycled plastic milk jugs, sawdust, and waste from other natural fibers. Other innovative products on display are low-emission paints and stains; high R-value insulation made from shredded newspapers; carpeting made from recycled materials; energy-efficient windows, doors, appliances, and light fixtures; and water-conserving plumbing fixtures.

Through a partnership with the Natural Resources Conservation Service, the house will also feature the latest theories and ideas in landscape design and options for water conservation and recovery.

More than 1,000 people have already toured the house, including builders, wood association members, electricians, plumbers, trade school students, and consumers. The house is currently closed while research equipment is being installed but soon will be open again. For more information, visit the Center website at www.fpl.fs.fed.us/ahrc. ☞

From left to right: composite roof shingles, a permanent wood foundation, and insulation made with shredded newspapers.





Ask FPL

Questions?

Contact us
at
Forest Products
Laboratory,
One
Gifford Pinchot
Drive,
Madison, WI
53705-2398
or write
mailroom_
forest_products_
laboratory
@fs.fed.us

We can also
be reached
by telephone
at
608-231-9200
TDD 608-231-9544
FAX 608-231-9592

EACH ISSUE of NewsLine will feature some frequently asked questions. Remember, our website (www.fpl.fs.fed.us) is a good source of information for wood-related questions.

Recently, we've been asked...

What kind of finish should I use for my butcher block?

Wooden utensils used for food service need a finish that repels liquids and resists abrasion, acids, and stains. Some good finishing options include the following:

- **Drying oils**—These finishes include linseed, tung, and diluted varnish and are considered one of the most satisfactory finishes for wood surfaces. Drying oils are simple to apply, and worn areas can be easily patched.
- **Nondrying oils**—These finishes include both vegetable and mineral oils. These natural nondrying oils are applied heavily and should be allowed to dry for several weeks before use.
- **Paraffin wax**—This simple finishing method involves applying melted wax to the wood surface.

Whatever finish you choose for your butcher block, make sure it is safe and nontoxic. Safe finishes will be recommended for use with food or described as food grade.

For more information on this subject, visit our website and click on FAQs.

What precautions should I take when using treated wood?

Keep these tips in mind when using treated wood:

- Dispose of treated wood by ordinary trash collection or burial. Treated wood should not be burned in open fires, fireplaces, or wood stoves because toxic chemicals may

be produced as part of the smoke and ashes.

- Avoid frequent or prolonged skin contact with treated wood and inhalation of sawdust from treated wood.
- After working with treated wood, wash exposed areas thoroughly and wash work clothes separately from other clothing.
- Do not use treated wood where it will come in contact with food or drinking water for people or animals.

For more information on precautions for specific types of treated wood, visit our website. Click on the Wood Handbook located in Notable Publications and look at Chapter 14, pages 3–4.

What precautions should I take to avoid cracked wood flooring in my new home?

Observing the following practices will greatly reduce the risk of cracking:

- Be sure your flooring is manufactured according to wood flooring association rules and sold by a dealer that protects it properly during storage and delivery.
- Install the heating plant before the flooring is delivered.
- Break open flooring bundles to expose all sides of flooring to the atmosphere inside the house. Close up the house at night and during damp weather, and supply some heat if necessary.

For more tips, visit our website. Click on the Wood Handbook located in Notable Publications and look at Chapter 12, page 19. ☞



New and Notable

Evolution of standardized procedures for adjusting lumber properties for change in moisture content.

Green, David W.; and Evans, James W.
FPL-GTR-127.

(www.fpl.fs.fed.us/documnts/fplgtr/fplgtr127.pdf)

Documents the development of procedures in American Society for Testing and Materials standards for adjusting the allowable properties of lumber for changes in moisture content. The report discusses the historical context of efforts to establish allowable properties on a consensus basis, beginning in the 19th century. Its goal is to foster a better understanding of how current standards have evolved and to promote reconciliation of conflicting property assignment procedures between current standards.

Formation and properties of juvenile wood in southern pines: a synopsis.

Larson, Philip R.; Kretschmann, David E.; Clark, Alexander III;
Isebrands, J.G.
FPL-GTR-129.

(www.fpl.fs.fed.us/documnts/fplgtr/fplgtr129.pdf)

To satisfy the increasing demand for forest products, much of the future timber supply will be from improved trees grown on managed plantations. This fast-grown resource will contain a greater proportion of juvenile wood, which will have a detrimental impact on allowable design stresses for visually graded lumber. Methods must be developed to more carefully manage fast-grown plantation wood for most efficient use. This review, a collection of knowledge pertaining to juvenile wood research in southern pines, should help in decision-making efforts to improve seedling selection techniques and silvicultural practices to maximize the potential for fast-grown plantations of southern pines.

United States paper, paperboard, and market pulp capacity trends by process and location, 1970-2000.

Ince, Peter J.; Li, Xiaolei; Zhou, Mo; Buongiorno, Joseph; Reuter, Mary R.
FPL-RP-602. (www.fpl.fs.fed.us/documnts/fplrp/fplrp602.pdf)

This report describes a relational database with estimates of annual production capacity for all mill locations in the United States where paper, paperboard, or market pulp were produced from 1970 to 2000. Included are tabulations and charts of annual capacity trends and maps of capacity by commodity, process, and location for 1970 and 2000. By illustrating shifts in capacity, the report describes some of the more significant changes that have occurred in pulp and paper technology during the past several decades.

Wood You Believe...

- that the original chemical compound for aspirin came from willow bark?
- that the oldest living thing on Earth is a tree? It's a 4,700 year-old bristlecone pine tree in Nevada that was alive when the Egyptians built the pyramids!
Source: www.afandpa.org
- that a cord of wood (8x4x4 feet) produces:
 - 7,500,000 toothpicks?
 - 1,000-2,000 pounds of paper (depending on the process)?
 - 61,370 standard-size envelopes?
 - 4,384,000 commemorative-size postage stamps?
 - 30 Boston rockers?*Source: www.hardwoodinfo.com*
- that Benjamin Franklin was the first paper merchant in America? He started 18 paper mills in Virginia and surrounding areas.
Source: www.afandpa.org



NewsLine

Published Quarterly by
USDA Forest Service
Forest Products Laboratory
One Gifford Pinchot Drive
Madison, WI 53705-2398

Chris Risbrudt
Director

On the Calendar

FEBRUARY

Winter 2002 Olympics,
Salt Lake City, Utah.
Watch for FPL's kiosks!
(see article on page 1)

February 11-13

**Enhancing the Durability
of Lumber and Engineered
Wood Products,**
Kissimmee (Orlando) Florida.
FPL's Jerry Winandy, Project leader
for the Composites Research unit,
is the Conference co-chair. The
conference is sponsored by Forest
Products Society. For more infor-
mation call 608-231-1361.

February 26-27

**Forest Industry/Forest Service
Research Liaison Meeting,**
FPL, Madison, Wisconsin.
A meeting for the forest industry
to learn about FPL's research in

finishes, wood construction, adhe-
sives, structural composites, wood
properties, and wood preserva-
tion/biodeterioration. Contact
Karen Martinson at 608-231-9450.

MARCH

March 3

**Pulp and Paper Education and
Research Alliance Meeting,**
Atlanta, Georgia.
For more information contact
Harry Cullinan, director of the
Pulp and Paper Education and
Research Center, at
cullinan@eng.Auburn.edu

March 3-6

Paper Summit 2002,
Georgia World Congress
Center, Atlanta, Georgia.
For more information visit the
web at www.papersummit.net

APRIL

April 11-13

Smallwood 2002 Conference,
Albuquerque Convention
Center, Albuquerque, New Mexico.
Community and economic develop-
ment opportunities in small tree
utilization. For more information
contact Forest Products Society at
608-231-1361, ext 208.

April 30-May 1

**American Forest & Paper Asso-
ciation/Technical Association
of Pulp & Paper Industry, Indus-
trial Liaison Committee Meeting,**
Madison, Wisconsin.

A committee comprised of pulp and
paper companies, suppliers, and
academia that review and provide
input into FPL's pulp and paper re-
search program. Contact Jane
Kohlman at 608-231-9479.