Oregon Wood Innovation Center

Connecting People, Ideas, Resources

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Coming OWIC events:

April 24-25: Selling Forest Products **Corvallis, OR**

Storm Damage on the North Oregon Coast: A Potential Business Opportunity?

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The storm of December 2-3, 2007 was not just another strong winter wind on the N. Coast of Oregon. The zone of severe winds was relatively narrow, but within this zone, sustained winds and repeated gusts over 100 mph during a 2-day period produced stand-replacement blow-down in many forest stands. (I live in on Young's River near Astoria and many of the "old-timers" say it was the worst they have seen.)

Initial estimates of the total forest damage approach 400 mmbf across the predominant industrial and state forest ownership in Clatsop and Tillamook Counties. Most of this is commodity wood – small to medium size sawtimber - and it comes all at once during a very poor timber market. While there is hope of an improving wood market in the 10-year outlook (OWIC Dec. 2007 Newsletter), the outlook is poor for the 12- to 18-month window for salvaging the timber blown down last month. Any help to broaden market options and improve salvage recovery values would be very welcome in north coast communities.

Larger private and public timber owners within the severe damage zone are looking at the equivalent of 1 to 2 years' timber harvest on the ground. It's a very different story for some small-acreage forest owners. Stand-replacement blow-down occurs in patches of 5 to 100 acres, which can constitute the majority of a smaller parcel, depending on vagaries of topography and wind behavior. For example, at least 30% of city and county-owned forest within 2 miles of Astoria appears to be down. There is as yet no good assessment across family forest lands. These lands cover about 16,500 acres across 425 different landowners within the zone of severe wind damage.

Forest damage on Oregon's north coast included a rather large portion of the older and larger timber in the area – timber that stood through many a strong wind until now. Larger, older trees (>40 inches dbh, > 80 years) are a small portion of the forest here, but their importance is inordinately large in the realm of family forest owners and also smaller public owners (City, County, Parks). Relatively diverse management goals result in these owners having much of

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Featured Researcher: Dr. Jim Wilson

The featured researcher for the month of January is Dr. Jim Wilson. Dr. Wilson is a Professor Emeritus in the Department of Wood Science and Engineering at Oregon State Universtiy and serves as Vice President of the Consortium for Research on Renewable Industrial Materials (CORRIM). Jim has been at OSU for 34years. Prior to joining OSU he was the Senior Development Engineer for the St. Regis Paper Company headquartered in New York.

Jim, although retired, maintains an active research program conducting contract research in the area of life-cycle assessment of wood products in an effort to document their favorable environmental performance. Areas of study include: 1) life-cycle inventory of wood products, 2) optimizing manufacturing processes for environmental goals while meeting production goals, 3) life-cycle assessments comparing wood to competitive materials, 4) performance of materials and buildings in terms of impacts on the environment, human health, and resources, 5) wood product use to reduce global warming and climate change, 6) benefit of carbon storage in wood products, and 7) use of wood to displace fossil-fuel intensive products and fossil fuel.

Jim is currently completing life-cycle studies of particleboard, medium density fiberboard, and resins used in the wood products industry. In related areas Jim is involved in the review and development of green building standards, environmentally preferred purchasing standards, and software to assess environmental performance of products. Jim's presentations, publications and reports, and those of other CORRIM researchers, are available on www.corrim.org.

The U.S. and many other countries are going "green." Some are moving quickly to green like the European Union and others are going at a slower yet significant pace like the U.S. Green is showing up in the marketplace as purchasing standards, as building standards, as energy policies, and as laws to regulate emissions for human health and reduce global warming. Consumers, corporations, universities, and government are all involved in this movement.

But what is green? Wood products are green, easy to say but had previously been challenging to prove. The best way to identify or select something as green is to make the decision based upon broadly accepted

analysis method such as life-cycle assessment using science-based data.

To develop such an approach and database for wood products, the Consortium for Research on Renewable Industrial (CORRIM) was formed by 15 research institutions in North America. This group actively conducts research to establish the favorable environmental performance of wood products in the U.S. as part of a national and international effort. WSE at OSU plays an important role in CORRIM's effort. Funding for this effort comes from government, corporations, foundations, and universities.

Instructor in Wood Products Manufacturing

Wood Science and Engineering at OSU is looking for a full-time Instructor to teach undergraduate courses in wood products manufacturing and wood technology. The job also includes assisting with undergraduate student advising and academic assessment, and to support the Oregon Wood Innovation Center through technical assistance and outreach education.

The job requires a MS degree with one degree in forest products, wood science and technology or similar field, and a minimum of three years relevant experience in wood products manufacturing.

See all the details and how to apply at http://woodscience.oregonstate.edu. Applications should be received by February 1, 2008.

Ask the Expert

Have questions related to wood? The faculty of the Wood Science and Engineering Department at OSU have the expertise to handle almost any question about wood. Simply submit your question using the Ask the Expert form (http://owic.oregonstate.edu/askexpert.php). Please be as specific as possible.

The following is an example of a recent 'Ask the Expert' question:

Question: Any information you can share on the causes of wood, either heartwood or bark, typically being acidic would be much appreciated. If there are specific types of compounds responsible, that would be good to know. This is related to mulching in ornamental plantings as well as in vegetable gardens.

Answer: Wood (leaves and bark as well) are composed of 4 general groups of chemicals: Cellulose, hemicellulose, lignin, and extractives. The acidity of wood is due to the hemicelluloses and extractives. Hemicelluloses are polymers of mixed sugars, e.g. xylose, glucose, galactose, etc. The sugars also have acetyl groups attached to them. When the hemicelluloses break down they release acetic acid. In fact this can be a problem for some woods in normal use!

The types of hemicellulose and the amount of acetyl groups varies considerably with tissue (wood, bark, leaves) and species. Oak is high in these.

The extractives also can be mildly acidic due to phenolic compounds, esp. polyphenols (tannins). Some trees also produce extractives with carboxylic groups attached (Plicatic Acid in red cedar) which also increase acidity. Oak is again known for its high tannin content, so it is no surprise that oak is often cited as an acidic wood in use and when it breaks down.

All wood is mildly acidic, at least due to its phenolic extractives. The pH however can vary considerably.

Storm Damage (Continued from Page 1)

the larger timber that occurs in the area.

Lack of markets for large timber has been an increasing concern. Before the storm, owners of large trees could enjoy the non-timber benefits or view the timber as an asset with hope for the future. **Regardless of the reasons for retaining such trees, now that the wind has blown them down, can we do anything to recover value from the good wood that is in many of these larger trees?**

Extension Forestry, along with the Clatsop Forestry and Wood Products Economic Development Committee are looking into a variety of topics related to storm-recovery and a better future for the forestry/wood products sector in general, as highlighted below.

Some companies have been able to utilize forest debris for biofuels and they are processing storm debris and delivering hogged fuel. A $10/ton tax credit is available for this material. **What will it take to continue this and reach deeper into the woods?**

Blow-down includes millions of board feet of timber 80-140 years old and some true old-growth. Better assessment of potential volume of higher grade logs is needed. **Is there potential for local sort yards to make better use of the full range of timber quality? Could portable mill capacity and even local drying capacity be deployed to improve utilization of larger, higher-quality logs?**

A variety of public and private cooperators have an interest in economic development efforts to increase local manufacturing, which could be facilitated by grants or loans for rapid-response business enterprises.

If any of the above catches your interest, or if you have other ideas that may be of help, please contact Glenn Ahrens, OSU Extension Forester for Clatsop and Tillamook Co.

Connecting Buyers and Sellers of Oregon Forest Products

Where can I find buyers for walnut logs?
Who does custom sawing in northwest Oregon?
Where can I find a list of firms that will dry small quantities of lumber?
Where can I find a list of landowners with madrone logs?
Where can I find a source of manzanita limbs?

Questions like these are some of the 'frequently asked questions' we receive via the Ask the Expert function on our website. We developed a web-based tool - the Oregon Forest Industry Directory (www.orforestdirectory.com) - to help answer these types of questions and in general, to help link buyers, sellers, and service providers in Oregon's forestry cluster.

Usage of the directory grew dramatically in 2007 - the site registered over 1 million hits last year; monthly hits increased from about 40,000 in January to over 200,000 in November. And we hope that the 'How to Use the Directory' presentation we recently created will spark even greater usage.

The 'how to' presentation discusses the purpose and function of the directory and presents 4 specific examples. Example 1 shows how to conduct a simple search (e.g., finding alder log buyers in northwest Oregon); example 2 shows how users can enter and update their company information; example 3 shows how to post a classified ad; and example 4 shows how to conduct an advanced search (e.g., how to find someone to do custom machining like tongue-and-groove for flooring). The presentation is similar to watching a video - there is audio narration and animated slides to show as clearly as possible, how to use this valuable on-line tool.

You can visit the directory at www.orforestdirectory.com and the on-line 'how to' presentation at http://owic.oregonstate.edu/ofid/howto/start.html.

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Previous issues of the OWIC newsletter are available at http://owic.oregonstate.edu/newsletter/

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