

Oregon State University Extension Service

Blue Mountains Renewable Resources Newsletter

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Upcoming Events:

The OSU Austin Family Business Center, Northeast Oregon Economic Development and the OSU Extension Service are pleased to announce a **“Ties To The Land Workshop”**

When: Session one-November 17th
Session two-December 1st
9am-1pm

Where: Community Connection,
Enterprise, Oregon

What: This workshop is a mix of presentations and practical exercises that will give you the knowledge and tools to start succession planning.
(see insert on page 6)

New Cooperative Seeks To Increase Value and Opportunity For Family Forests

As a woodland owner you are no doubt aware of the many challenges we face to maintain healthy and productive forests. In today's economy it is difficult to get the sawlog prices needed just to cover our basic management costs - let alone make money. And every woodland owner has to manage their lands. Whether you own 5 acres or 5,000 acres, management actions like tree planting, thinning and removing diseased trees are neces-

sary to achieve your goals and protect your investment.

Woodland owners in Baker and Union Counties decided to proactively improve our situation by joining together and forming the Blue Mountain Forest Cooperative (BMFC). Our main goal is to provide Cooperative members the means to achieve higher values for their timber by:

- Securing higher prices for timber products
- Reducing costs by increasing harvest efficiency; and
- Increasing marketing opportunities

The cooperative will seek to annually coordinate timber harvesting activities by those members who intend to harvest in order to meet their forest management objectives. By coordinating harvests, the BMFC will be able to offer purchasers a relatively large amount of raw material volume that can be delivered more uniformly throughout the year. These options are highly desirable for purchasers, allowing the BMFC to negotiate significantly

Best Regards,

Paul Oester, Extension Forester
Umatilla, Union & Wallowa Counties

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higher delivered prices than individual land-owners could obtain on their own.

Packaging member's harvesting jobs into a full season of work for BMFC approved and qualified contractors will also allow the cooperative to negotiate more favorable harvesting costs. Contractors will benefit by having a reliable full season of work, allowing them to reduce their costs compared to the more typical start-and-go, here-and-there patchwork of jobs. Additional efficiencies are expected by coordinating transport of timber to mills.

Finally, we are working with Sustainable Northwest in Portland to develop a procedure to have our member's woodlands certified as sustainably managed for the long-term. Businesses and consumers often prefer products from well-managed certified forests which will also bring an "added value" possibility to our timber.

The fee is a \$250.00 to join the BMFC, which is a very good value for the benefits our members will receive. At this time the decision to establish an annual fee has been deferred until the membership is stabilized. The decision will then be discussed and voted on by the members.

If you would like to join the Cooperative, please contact any one of the officers/members below for an application form.

Also, if you would like to speak to an officer or member of the Cooperative to get their views, please contact me or one of our other officers:

Eileen Gyllenberg 541-519-7947
Steve Edwards 541-523-5299
Lyle Defrees 541-894-2241
Bob Parker 541-403-0480

We look forward to hearing from you, and would welcome your membership in the Cooperative! The more acreage represented in our membership, the greater our influence in negotiating an equitable price for our timber.

Yours sincerely,

Eileen Gyllenberg, President
Blue Mountain Forest Cooperative

Biggest Ever Thinning Project

*Cyndy Cole, Arizona Daily Sun
Staff Reporter*

A Montana-based company won a contract Friday for the biggest-ever thinning project in U.S. history designed to restore northern Arizona forests to health. Pioneer Associates of Billings, Mont., will use the wood from 300,000 acres to feed a wood products mill that it plans to open in Winslow by the fall of 2013. Pioneer agreed to pay the U.S. Forest Service \$6.6 million for the right to log the forests -- about \$22 an acre. The mill will employ 600 people and cut ponderosa pines 5 inches in diameter and larger into pieces about a couple inches thick, with the pieces glued together and joined to form laminated panels. Those panels go into doors, windows and furniture.

"Really, the only way you can take this small wood and turn it into something valuable is through this process," said Michael Cooley, a sawmill operator in Heber speaking on behalf of Pioneer Associates and its Arizona subsidiary, Pioneer Forest Products. Mid-level jobs would pay some \$26,000 to \$32,000 annually, and the mill would be running at full capacity by 2015. Another 400 people would be employed logging and trucking on some 30,000 acres a year of Coconino and Kaibab national forests for 10 years. The first 5,000 acres will be logged this year. The Pioneer contract is part of a 20-year plan to restore 2.4 million acres along the Mogollon Rim to a natural fire regime, reduce wildfire threats and create sustainable forest industries.

Conflicts Avoided

Local Forest Service officials, speaking at a press conference Friday at Little America Hotel in Flagstaff, said they delegated all decisions about who got the contract to Albuquerque, to avoid the possibility that local businesses working with local national forests would get special consideration.

"The company that gets this has to stay for 10 years and has to have the ability to be successful," said Corbin Newman, head of national forests in the Southwest. The Center for Biological Diversity -- which has been a part of a 31-member stakeholder group calling for precisely this kind of action in the forest -- blasted the agency's pick, saying that the other bidder would have paid more for the con-

tract and had pledged to use only small-diameter trees. The Center contended that one of the principals in Pioneer He likes the provision to haul limbs and brush out of the forest and use it for fuel and heat, rather than burning it. "Everybody's committed to using the by-products," he said.

Trucks Vs. Wildfires

Truck traffic in and out of the forest will increase, with about four trips per acre, or 120,000 truck trips per year over the national forests for this work. Officials were asked about the impact of increased logging on tourism, and if the scale of the logging would hamper it. The alternative -- really big wildfires -- is usually worse for tourism, said Newman, the regional forester for the U.S. Forest Service. "There's a few things people look for when they look for a recreation setting," he said. "They want it green. Not brown. Not black."

Cyndy Cole can be reached at 913-8607 or at ccole@azdailysun.com.

What If?

June 2012, Oregon Wood Innovation Center

One of my 13-year old twin boys has, for his entire speaking life, asked "what if" questions.

There are no boundaries to the audacity of his questions and there is no realism requirement; the sky is the limit. I freely admit that his questions drive me crazy, but I don't want to stifle his creativity. With this in mind, and ideas from a recent Economist Special Report on Manufacturing and Innovation, I pose a series of WHAT IF questions for you to ponder as you consider the future of your business and the Oregon forest sector.

3D printing (additive manufacturing) is becoming commonplace with applications across industries. Rather than starting with a block of a given material and machining away what is not needed, the printer simply lays down material, layer-by layer to create the desired three-dimensional object. This can be done with plastics, metals, and even living tissue. WHAT IF one could 3D print using cellulose?

There is already significant momentum around the world focused on the concept of a bio-refinery that turns trees into a myriad of valuable fuels and chemicals. Could one bio-refinery product be the raw material for 3D printing? Imagine the possibilities for defect free structural elements that are 100% biodegradable and recyclable. Might we one day print the structure of an entire single-family

Delivered

LOG MARKET REPORT *\$/1,000 board feet*

Oct. 15, 2012

Umatilla/Pendleton								
Douglas-fir /Larch	Ponderosa Pine				Grand fir /White fir	Lodgepole Pine	Engelmann Spruce	Pulp/Chip Logs
	9-11"	12-17"	18-23"	24"+				
310-325	270-300	340-370	400	400-430	285	270	270	call
La Grande/Elgin/Joseph								
Douglas-fir /Larch	Ponderosa Pine				Grand fir /White fir	Lodgepole Pine	Engelmann Spruce	Pulp/Chip Logs
	6-11"	9-11"	12-17"	18"+				
310-335	205	320	320	360	240	240	240	call
Burns/John Day								
Douglas-fir /Larch	Ponderosa Pine				Grand fir /White fir	Lodgepole Pine	Engelmann Spruce	Pulp/Chip Logs
	8-11"	12-17"	18-23"	24"+				
8"+ 300	260	365	400	430	8" + 275	—	—	18
<i>Source: Oregon Log Market Report, Editor John Lindberg, ph 360-693-6766, fax 360-694-8466, logmkt@comcast.net</i>								

home? Several members of the WSE department visited Joplin, Missouri last summer after the class 5 tornado as part of a post-disaster evaluation team. As with other similar events, one of the main findings was that improper physical connections, for example toenailing instead of tie downs for rafters, resulted in considerable damage. WHAT IF there were no such connections, but roofs and walls were a seamless structural element!

One of our past Wood Science & Engineering Colleagues, Phil Humphrey, was fond of using a human femur bone when he explained natural composites to kids (and, I suppose, adults). Bones are structurally efficient because of shape, varying density, and fiber orientation. Using bones as a conceptual model, and 3D printing as a tool, one can imagine a myriad of structural products made from natural fiber. Designers are keen on principles of biomimicry where the patterns and structures of nature are used in product design. The intersection of biomimicry thinking and 21st century tools such as 3D printing will provide endless opportunities.

Even if 3D printing isn't something the forest sector can implement directly, it can potentially benefit indirectly. A machine center breaks down because of a small but key internal part. The part isn't in inventory and must be delivered from Germany—OR—you can download the specs from the manufacturer and print the part on demand from your own office. Instead of 24 hours of downtime, it's a few.

When I teach on innovation topics I use an example from Betty Crocker where they reduced the setup time to switch from one product line to another from four and a half hours to 12 minutes. This was a HUGE improvement. How did they do it? They carefully studied the strategies and tactics of NASCAR pit crews. What might you accomplish if you carefully studied the approach that a totally different industry takes to processes similar to yours? I know of one Oregon primary manufacturer that has done this in the past— even to the point of taking teams of employees to visit another company's site to learn through hands-on experience. It doesn't always have to be about manufacturing. WHAT IF you had truly world class customer service modeled after something like Disneyland?

A good friend of mine, Bob Smith, from Virginia Tech was recently in town to teach the OWIC continuing education course, Selling Forest Products. I asked him to talk with my marketing students about the hardwood industry in the eastern US. I knew times were bad for hardwood lumber producers but until his presentation I didn't realize how bad. Between 1999 and 2010 nearly 90% of the highest value market (furniture) went away. According to the Economist report, we are entering a third industrial revolution (going digital) where manufacturing will return to the developed world. This will happen because we will have fewer people in manufacturing thus lowering our own costs while at the same time labor costs in other countries will climb as a result of increased living standards. Bringing manufacturing back home will allow us to be more nimble, reacting faster to local tastes. WHAT IF furniture manufacturing returns to the US? New facilities may locate close to urban demand centers rather than traditional industry clusters and the owners may be a very different crowd than the furniture companies of old with non-traditional business models. It will be interesting to see how hardwood lumber producers react to this change.

Our industry has long been characterized as production oriented with a commodity mentality. A VP of marketing for an Oregon forest products firm recently spoke in my marketing class about the evolution of marketing in the industry. He described an industry focused on sales, not marketing. According to his explanation, the industry is far more sophisticated today, but still has significant room for growth. Any moves toward communication down the value chain can help move away from commodity thinking toward "total product" thinking. Some forest products companies are using social media to reach their customers, do you have a social media strategy for your company? WHAT IF the industry was as adept at B2B marketing as Nike is at B2C? WHAT IF the industry embraced "social manufacturing", virtually involving customers, architects, and even final consumers in designing new wood products? This concept is currently being implemented by companies such as Quirky (<http://www.quirky.com/>) where an individual can submit an idea and others can add their input— eventually creating a commercialized product.

With an industry characterized by commodity thinking, product innovation is typically slow and incremental. Research shows that the main challenge to being innovative in this industry is existing company culture. Culture is a factor of personnel. WHAT IF your workforce were more diverse and more highly trained? Diversity comes in many forms but should include hiring outside of the industry to import ideas and thinking from elsewhere.

The mid-90s saw a near end to harvest from Federal forestland in Oregon. Since that time the industry has continuously focused on increasing harvest from that land base. Even the recent Forest Cluster Working Group report prioritized Federal forest issues. While some progress has been made, it has been excruciatingly slow. I can't help but wonder WHAT IF all the time, energy, and money invested by Oregon's forest sector in this issue had instead been focused on product, process, and business systems innovation designed to meet the needs of the marketplace? It is interesting to contemplate the structure and characteristics of a highly innovative forest sector.

What might these ideas mean for your company? Even if all these are blue sky ideas that have no connection to reality, creative thinking may be the ingredient that keeps your company healthy for the next generation.

WHAT IF?

The Third Industrial Revolution. The Economist. April 21st-27th. 2012

Forest Owners Applaud Supreme Court Decision to Review Forest Roads Case

WASHINGTON, DC, June 25, 2012 – The National Alliance of Forest Owners (NAFO) responded enthusiastically to news that the U.S. Supreme Court will review the U.S. Court of Appeals for the Ninth Circuit Court's ruling in *NEDC v. Brown*. The Ninth Circuit ruled last year that forest roads are "point sources" of water pollution requiring industrial discharge permits typically applied to factories and sewage plants, a decision that overturns EPA's 35 years of successful regulation of forest roads under the Clean Water Act."

"The Supreme Court's decision to review this

case is a welcome development for forest landowners across America, who for 35 years have contributed to one of the nation's best success stories under the Clean Water Act," said Dave Tenny, NAFO President and CEO. "It validates the opinions of the Solicitor General, 29 state attorneys general and forest owners and operators across the country who all agree that the Ninth Circuit's decision was wrong."

Although the Solicitor General in his May 24 brief to the Supreme Court acknowledged that the Ninth Circuit ruling was wrong, he recommended the Court not review the case urging that "the complex regulatory issues can be addressed more definitively and in a more nuanced fashion by Congress and [EPA]."

Congress and the Administration joined forest owners to support EPA's historical treatment of forestry and forest roads as non-point sources by taking action last December in the Fiscal Year 2012 Consolidated Appropriations Act.

The effort, achieved with bipartisan support in both the Senate and House, prevented the Ninth Circuit's misinterpretation of the Clean Water Act from taking effect but expires September 30, 2012.

"The Supreme Court's decision raises a significant question regarding the need for further administrative action by the EPA pending a final decision by the Court," Tenny continued. "At this point undertaking an administrative process without knowing the legal context would be a questionable use of time and resources."

EPA began an administrative process on May 23 to address the Ninth Circuit's ruling and maintain the agency's longstanding practice of using Best Management Practices* rather than permits to regulate rainwater runoff from forest roads. EPA has not yet introduced a proposed rule, which has cast doubt on whether the agency would complete a rulemaking before the September 30 expiration of legislation. A final EPA rule would be challengeable directly to the Ninth Circuit, inviting a continuation of the litigation cycle.

Shortly after the CWA was enacted in 1972, the EPA recognized forest management activities as non-point sources most effectively regu-



Successfully Transferring Your Farm or Ranch to the Next Generation

SAVE THE DATES!

TWO-PART WORKSHOP: Session one-November 17th and Session two-December 1

Time: 9am-1pm **Location:** Community Connection, Enterprise, Oregon

Who is this workshop for?

Owners of family farms, ranches and forestlands

Why is this workshop important?

You probably hope the work you've started will continue past your lifetime and that future generations will benefit from your efforts. **But hope is not a plan.**

Preserving your legacy requires planning, and that involves more than just having a will or an estate plan. This workshop is a mix of presentations and practical exercises that will give you the knowledge and tools to start succession planning.

What will it cover?

This workshop is a mix of presentations and practical exercises that will give you the knowledge and tools to start succession planning.

You will:

- Gain awareness of key challenges, and tools to deal with them
- Get tools to determine your heirs' interests
- Clarify your values and goals
- Learn the steps to succession planning
- Learn how to hold effective family meetings
- Learn about legal and financial instruments that can support your plan
- Be prepared to meet with the professionals you choose to finalize your plan

**For more information or to pre-register call or email NEOEDD:
541 426 3598 or saramiller@neoedd.org**



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OSU Austin Family Business Center



lated under state administered best management practices (BMPs). BMPs are designed to adapt to a diversity of forest conditions across a broad landscape and provide flexibility to address concerns if and when they arise. The success of BMPs enables the EPA to rank forestry as a “minor contributor” to sediment runoff.

NAFO is an organization of private forest owners committed to advancing federal policies that promote the economic and environmental benefits of privately-owned forests at the national level. NAFO membership encompasses more than 80 million acres of private forestland in 47 states. Working forests in the U.S. support 2.5 million jobs. To see the full economic impact of America’s working forests, visit www.nafoalliance.org/economic-impact-report.

Contact: Gretchen Schaefer, (202) 747-0756, gschaefer@nafoalliance.org

Pine Butterfly Update...

Rob Flowers, Oregon Dept. of Forestry

As many of you have previously expressed interest in the pine butterfly defoliation that has been occurring within the Malheur NF and adjacent ownerships, the following provides an update on the situation based on aerial and ground surveys completed in 2012.

The provisional aerial survey data detected 104,633 acres of pine butterfly defoliation in 2012, down 58% from 250,325 acres mapped in 2011. Areas described as having “heavy” defoliation declined significantly, while small increases in the overall area with “light and moderate” defoliation were observed (See below and maps).

2012

Heavy Defoliation = 43,897 acres

Moderate Defoliation = 39,465 acres

Light Defoliation = 21,271 acres

2011

Heavy Defoliation = 194,133 acres

Moderate Defoliation = 41,142 acres

Light Defoliation = 15,050 acres

These findings suggest that the outbreak is collapsing and the effects of the pine butterfly are declining. Trees in many areas suffered less extensive and severe defoliation this year relative to last year. Population declines appear to

be due to increasing levels of natural predators and parasites among other factors. We expect some degree of defoliation to continue in the next year or two, but overall declines in pine butterfly populations should continue until they return to normal, endemic levels.

A cooperative research project, funded by the US Forest Service, was begun this year to assess the effects of the defoliation within forest stands. Within the core area of defoliation, 15 stands were selected and 45 permanent plots have been installed. These will be re-measured annually over the next 3-4 years with a focus on documenting the degree and causes of tree mortality. While analyses are ongoing, initial findings indicate low levels of tree mortality to this point. Where it did occur, it was most often attributed to attacks by bark beetles and other woodboring insects. Tree mortality most often occurred as small patches scattered widely across the landscape. Additional examinations of radial growth loss as well as the effects of nutrient input (resulting from the defoliation) and effects of the recent fire that occurred within the area are also planned in coming years.

Despite the extensive defoliation that has occurred, it would appear that the vast majority of trees examined to this point have survived. Some defoliation is expected next year in those areas where the pine butterflies were observed in high numbers this year, but the activity of their natural enemies is expected to continue to reduce their numbers until they reach low endemic levels within the next few years.

Please see the attachments and following documents for more information:

Malheur National Forest - Pine Butterfly Update, August 2012:

http://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5386713.pdf

ODF Forest Health Note, Pine Butterfly: <http://www.oregon.gov/ODF/privateforests/docs/fh/PineButterflyWeb.pdf>

2012 Draft Aerial Survey Data for Oregon and Washington:

http://www.fs.fed.us/wwetac/threat_map/R6_ADS_2012.html

An Overview of What Green Building Means to Forestry

*By Elaine Oneil and Bruce Lippke
Western Forester, Nov/Dec. 2011*

“Green Building” first took on usage as the catch phrase for a system of sustainable building practices with an emphasis on energy conservation strategies that would substantially reduce the energy use over the life of the building. Subsequently, the definition has expanded greatly so that green building incorporates sustainability across the whole range of issues, from choosing the construction site and the impacts of neighborhood density, to material choices and even to specifics such as what kinds of resins are used in the wood and the relative impact of recycled wood versus local wood. Green building now implies both reduced energy and material use and climate change mitigation. The most forward-looking green building goals are to have net-zero buildings (no emissions) or even having buildings that store/produce more energy than they took to build/operate. Given the breadth of meanings attached to green building, and the likelihood that it is often used imprecisely or with a range of intended meanings, there is a real need for performance metrics based on scientifically verifiable data to support claims of relative greenness.

Performance metrics for evaluating “green”

Life Cycle Inventory (LCI) provides an accounting of all the inputs that go into making a product including energy and materials. It also quantifies the emissions to air, land, and water. These measurements provide an unbiased assessment of the environmental burden of producing a given product and can serve as scientifically verifiable data to support claims of relative greenness. For wood products, the data are usually provided for a functional unit such as MBF of lumber, metric ton of chips, or ft² of panel product. The LCI data are used to develop a life cycle assessment (LCA) of the product by grouping emissions into categories that provide estimates of how much global warming potential,

acid rain, smog, ozone depletion, nitrification of water, or other environmental burdens are likely to result from manufacturing. These performance metrics are typically compared across a suite of alternative products to identify relative greenness for a given use.

Since 1998 the Consortium for Research on Renewable Industrial Materials (CORRIM) has been using LCI/LCA research protocols developed in accordance with International Standards Organization (ISO) requirements to quantify the environmental footprint of wood-based products. That research clearly articulates the environmental impacts of the growth, harvest, transport, and manufacturing of the dominant wood-based structural building materials produced in the U.S. today. It provides a set of performance metrics that can be used to quantify the relative greenness of competing wood and non-wood products and also highlights where process improvements can be made to reduce environmental impact.

Integrating performance metrics into a sustainability assessment

In addition to LCI work on specific Product manufacturing and use, research has been conducted to link the environmental footprint back to the producing acre. Carbon accounting provides a system’s analysis approach that links land-based LCI data to manufacturing LCI data to reveal the impact of production and land management decisions. Manufacturing and production emissions are converted to carbon dioxide equivalents for each stage of production. Wood, whether in a building or standing in the forest, has a well-established carbon equivalent. Foresters understand volume over age curves: carbon accounting is a matter of converting volume to stem, root, and crown biomass and converting biomass to carbon equivalents. In this way carbon accumulations are tracked from the seedling to stand maturity and across successive rotations to get the carbon equivalent in the forest, the wood products that come from that forest, and the energy used per acre of production.

Figure 1 provides the carbon consequences of harvesting an acre of Pacific Northwest Douglas-fir forest managed on a sustained yield basis with products sent to a mill that produces the regional average mix of sawlog and chip products. The sawlogs are converted to solid wood products and they continue to store the carbon they contain (approximately 50 percent by weight) for the life of the product. In this example carbon is stored for 80 years, which is equivalent to the 1/2 life of residential construction. Implicit in this kind of analysis is that the harvested forestland sustainably produces forests and forest products without any reduction in growth capacity. The challenge going forward may be in demonstrating that a specific region, ownership, or wood basket is managed for a sustainable flow of carbon, as well as for other metrics that are now measured under various forest certification schemes in order to qualify products coming from that area as green building products.

Research effort has also been directed at understanding the relative environmental impacts of using wood in place of steel or concrete with similar functional roles. On average, CO₂ emissions are reduced by 3.9 tons for every ton of structural wood that is used in place of (substitutes for) competing products, giving a Carbon: Carbon substitution ratio of 2.1:1. Accounting for the substitution impact of using wood in place of high-energy alternatives in a carbon accounting framework links the LCA to the land base for a comprehensive synthesis of environmental impact. The substitution benefit shown in Figure 1 (top half of graph) illustrates that the substantial environmental benefits from using wood are in long-lived applications where they replace high energy alternatives. Obtaining credits for these benefits in the context of green building or code development will be a major challenge.

Trends

Code development is a significant emerging trend. This autumn the International Code Council (ICC) will vote on an amendment to the International Green Construction Code (IgCC) to include whole building life cycle assessment. The outcome of that vote will deter-

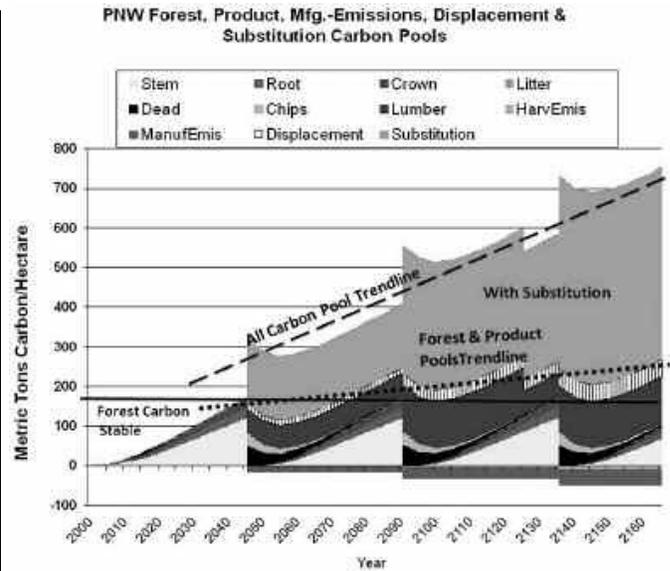


Figure 1.

SOURCE: CORRIM

mine if life cycle assessments of structural products, including wood products, will be needed for those jurisdictions that adopt the (IgCC) and pursue the whole building LCA elective for their projects. Other jurisdictions are entertaining legislation requiring LCA in building Codes, but none have come to fruition yet. These trends toward quantifying the environmental footprint using LCA metrics means that increasingly producers will be asked to provide information on the life cycle impacts of their products, from cradle to grave.

The trend toward using LCA is generally beneficial to wood producers because the groundwork on LCA data development over the past 15 years supports the benefits of renewable resources. The environmental footprints have largely been shown to be positive relative to other materials. However, the emergence of Environmental Product Declarations (EPDs) as a marketing tool will require that the data used to derive the environmental footprint is current and reflective of the existing infrastructure and energy usage, so ongoing data updates will be required.

Challenges

Despite the favorable environmental profile of wood products, there are substantial challenges ahead for the forest industry as we move into an era where green building is the norm. The most imminent is the EPA tailoring rule that has been delayed three years while a

scientific advisory board (SAB) evaluates the research to understand how best to account for emissions from biomass relative to fossil fuel. While not specific to green building, the outcome of these deliberations will impact the accounting methods applicable for biogenic carbon (burning biomass in place of fossil fuel), which could influence which energy source producers use for drying their products, production costs, carbon accounting protocols, and forest sustainability criteria. Regardless of the outcome, the SAB decision will influence the markets for low-value coproducts such as hogfuel and forest residuals—either increasing demand if biomass burning is shown to be less detrimental than fossil fuels, or reducing demand in the opposite case.

Producing an LCA from cradle to grave entails quantifying impacts from seedling to construction site and beyond through product use and demolition. The first two stages are within the control of the grower and manufacturer, while the in-use stage, recycling, and demolition are outside their ability to control. However, they are not outside their ability to influence through the growth, development, and promotion of products that: a) have a long service life; b) are re-usable; c) are recyclable; or d) can be recovered for their energy value. Recovering wood for its energy value ranks lower than recycling but exceeds land-filling. The length of service life and end of life alternatives have a significant impact on the overall life cycle analysis. Part of the challenge will be to identify where wood's environmental performance is better than competing products, and which alternatives are best. While these issues seem to be outside the realm of the producer they cannot be ignored if forest products are to play a significant role in green buildings.

Life cycle inventory and assessment research has identified wood as an environmentally friendly product when produced from sustainably managed forests. However, its inclusion as a green building product is not certain without the requirement for unbiased, verifiable LCA performance criteria that accounts for total stored carbon less production emis-

sions within consistent system boundaries. Education and policy-related efforts are essential for the green building community to understand the full story from the forest to the buildings and beyond.

In the longer term, the take home message for the forester and land manager is that while growing wood sequesters carbon, growing it faster and using it effectively sequesters even more carbon. Keeping it on the stump meets an eventual carrying capacity limit without contributing to sustainable growth of carbon stores and emission reductions outside the forest. Using it for long-lived products maximizes the carbon benefits; and the longer it can stay in service, and the more times it can be re-used or recycled before it is eventually burned for its energy value, the greater that benefit will be. That condition will hold as long as we keep putting seedlings in the ground and managing the forest for sustainable long-term production.

Forest Certification

Forest Facts, January 2008

Forest certification is a voluntary process through which forest landowners allow their lands and management practices to be evaluated by a neutral auditor against the standards of a certification system. Ensuring market access for certified wood products and improving forest management are its two primary objectives.

Many of the nation's large lumber retailers have endorsed forest certification as a means of assuring customers that the wood they are buying comes from well-managed forests. For wood products companies that do business with the likes of Home Depot and Lowes, the stakes are huge. Although many forest landowners remain uncertain of the value of certification, many also fear loss of marketability if their forests aren't certified.

In the past, the unintended consequence of government regulation in the global marketplace has been to shift the supply of wood products to less regulated countries. Forest certification could potentially improve that

situation by creating more uniform international standards for well-managed forests, and by compelling consumers to confront their purchasing choices. Well-designed, marketbased, voluntary forest certification programs involving willing wood products producers, retailers and consumers could complement the Oregon Forest Practices Act.

While standards for judging the credibility of programs are still emerging, certification has become a focal point for the wide range of social, cultural, environmental and economic agendas of industrial associations, environmental organizations, government agencies, and forest landowner groups alike. Today, the most common certification systems operating in Oregon are the American Tree Farm System, Forest Stewardship Council (FSC), and Sustainable Forestry Initiative (SFI).

Certification could lead to a more efficient model to achieve and document high levels of forest stewardship by Oregon landowners. Increased acceptance and recognition of Oregon's forest products in international markets is another possible outcome.

Staff at the Oregon Department of Forestry (ODF) are working with the Oregon Board of Forestry, forest landowners, and others to identify how forest certification systems can most effectively interface with established forest policies and with the Oregon Forest Practices Act. To date, the Oregon Board of Forestry has endorsed the following guiding principles:

- Certification should remain a voluntary, market-driven process. Landowners desiring certification must retain the freedom to choose which path toward certification best meets their objectives.
- For private forest landowners, certification is valuable only when it meets their management objectives and they can recover the investment required to participate in it.
- Forest certification is not a necessary prerequisite for sustainable forest management for a well-managed forest.
- Landowners with well-managed forests who choose not to pursue voluntary forest management certification should not be considered by the State of Oregon to be

less competent or protective of forest resources than those landowners who become certified.

The Board has also approved draft Oregon standards for the essential components for credible certification systems. Several large industrial landowners have already obtained certification under SFI and other private landowners have obtained certification under the American Tree Farm System or FSC. However, public forests and a majority of Oregon family forestlands are not currently certified under these existing certification models. Oregon forest landowners that are economically successful are better able to practice sustainable forestry. Therefore, the State of Oregon has an interest in having forest landowners achieve the best possible prices for their products. If forest certification is proven to enhance landowner income, the state will look for ways to enable landowners to make informed decisions about certification and take advantage of this marketing strategy. With or without certification playing a role, Oregon's message to the rest of the world is that we are international leaders in practicing sustainable forestry, and consumers can be assured that products from Oregon's forests are not only high quality, but produced in a manner that promotes environmental, social, and economic sustainability.

Western Tent Caterpillar

Tall Timber Topics, Summer 2012

The western tent caterpillar is a native insect to our forests. The caterpillars congregate in white silky tents on their host plants and feed throughout the spring months. The tent caterpillar's population is cyclical. Over a period of two to three years, the population builds up and then crashes as natural parasites and diseases kill them off. Then we don't see them again for maybe 8 – 10 years.

There have been several reports of western tent caterpillars this spring around Oregon, including in our area. Here on the westside, they prefer hardwoods such as alder, cottonwoods and willows.

While they may look alarming and can substantially defoliate the trees they infest, there's little cause for alarm. The caterpillars will be done feeding for the year by the time you read this, and the affected plants typically regrow a new set of leaves later in the summer. The best strategy

to manage western tent caterpillars is to allow their natural enemies to do the control for you. If you can't stand the look of them, you can prune and remove affected branches and their tents. Spraying insecticide is not recommended.

My guess is that we'll see more western tent caterpillars in some localized areas next year. For more information, consult a [Forest Health Note](http://www.oregon.gov/ODF/privateforests/docs/fh/WesternTentCaterpillar.pdf) from the Oregon Dept. of Forestry: <http://www.oregon.gov/ODF/privateforests/docs/fh/WesternTentCaterpillar.pdf>



Western tent caterpillars near Clatskanie, June 2012

Delay pruning to help wildlife now *Crossing Paths News Notes, October 2012*

Fall yard and garden clean-up too often includes pruning trees, shrubs and other plants that wildlife may depend on for food and cover.

Washington Department of Fish and Wildlife (WDFW) staff recommend delaying that task to help wildlife during the more difficult fall and winter season.

"If pruning is necessary, the most wildlife-friendly time to make those cuts is late winter," said WDFW biologist Russell Link. "Right now many birds and other wildlife species are using the seeds and fruits of hawthorn, maple, nine-bark, mountain-ash, Oregon-grape, evergreen huckleberry and other species."

Link advises leaving dried foliage, seed heads and some grasses uncut, too, as many of these annuals and perennials keep their seeds well into winter, or harbor insects that many birds use throughout the winter.

"If you clean and prune in fall," Link said, "try leaving cut vegetation around the plant as a mulch and to hold seeds and over-wintering invertebrate eggs and larvae. And consider adding cut branches and twigs to an out-of-the-way brush pile which creates its own habitat..

Controlling invasive non-native vegetation like Himalyan blackberry is another matter. Heavy pruning, outright removal, or removal and replacement with a locally-adapted native species, is recommended, and fall is a great time to plant.

Link also notes that some homeowners don't get the gardening bug until spring is in full-bloom. Pruning trees and shrubs in spring is the least wildlife-friendly, as it can be disastrous for birds and other wildlife that are setting up territories, nesting, or rearing young.

"Timing is everything," he said. "Pruning trees and shrubs is best for the plant when it's shutting down for the season. Delaying that traditional fall chore until late winter is best for wildlife."

Research Briefs: Wood-based biofuels

Biofuels provide a domestic energy source that creates jobs and spurs economic development. However, current technologies are heavily subsidized and in some cases increase greenhouse gas emissions. Oregon State University researchers are analyzing the efficiencies and economics of biofuel production and its role in a broad forest management strategy that includes fire risk and rural communities. Below is a link to a blog post from OSU's *Terra Magazine*, "[From Wood to Watts](http://oregonstate.edu/terra/2012/05/from-wood-to-watts-2/)", that describes OSU's current research into forest-based biofuel. <http://oregonstate.edu/terra/2012/05/from-wood-to-watts-2/>

The [Northwest Advanced Renewables Alliance](http://www.nararenewables.org/or) is a group of researchers that is working to develop a regional wood waste-to-aviation biofuel supply chain. They are investigating many things including the technology, economics, sustainability social and forest operations aspects of wood-to-energy. The NARA team is inviting interested individuals to sign up as stakeholders to provide input to the research and learn more. To sign up, go to <http://www.nararenewables.org/or>

Tips for Seeding Dirt Roads

Reprinted/adapted from the Summer 2012 Douglas County Woodlander

Exposed soils resulting from skid trails, landings and new road construction have the potential to degrade water quality. Establishing vegetation on these exposed soils helps to stabilize erodible areas and prevents sediment from reaching streams. Roads and skid trails located on steep slopes and stream crossings have the greatest potential for degrading water quality. The goal of seeding these exposed areas is to encourage the development of dense roots that bind and hold soils, even under adverse weather conditions, thereby minimizing negative environmental effects and decreasing the cost of maintaining these developed areas.

Apply seed when fall rains begin following summer logging activities. Before seeding, evaluate the site in terms of soil depth and type, slope, steepness and aspect to determine the effective precipitation, water availability and shading. A mixture of two or more perennial species is desirable because no individual species can survive and thrive in all conditions or provide all the desired benefits. Species that can establish and grow rapidly stabilize sites quickly. Aggressive, long-lived and well-rooted perennials prevent erosion, provide forage and impede other undesirable plants. Shade tolerance is often desirable since many woodland roads have varying degrees of shade.

Early maturing varieties tend to grow taller while later maturing varieties tend to have a lower profile. The former helps shade out invading weeds while the latter produces higher quality forage and deeper root structures.

Annual ryegrass, a popular early maturing grass, is often combined with the later maturing, lower profile varieties of fescues or bentgrass. Many seed warehouses perform specialty orders and utilizing these businesses ensures a high quality and carefully measured percentage of selected varieties. And remember, cheapest is not necessarily the best: comparing purity and germination percentages between seed mixtures will ensure the greatest survival and growth potential after planting.

Hand broadcasting or the use of a spreader requires 1.5 to twice the rate of seeding versus machine planting. This is due primarily to the exposure of seeds that are broadcast versus machine drilling, where the seed is more protected from climate and birds and animals. Generally, about 100 seeds per square foot is adequate for broadcast seeding. This equates to 10 to 20 pounds of seed per acre. Remove any surface debris to ensure seed has direct contact with the soil. A rough surface is better than a smooth one. Particularly on steeper slopes, straw mulching or a slurried wood fiber provide a better environment for germination and growth and also assists in water erosion. Once the site has been planted, avoid livestock or other activities to allow the seed to germinate, grow and capture the site.

Common name	Longevity	Growth rate	Growth habit	Seeds/lb	Comments
Annual ryegrass	Short	Very fast	Erect	200,000	Inexpensive, grows fast
Perennial ryegrass	Short	Fast	Bunch	250,000	Forage & turf varieties
Orchardgrass	Long	Medium	Bunch	500,000	Not for wet sites
Timothy	Long	Medium	Bunch	1,000,000+	Excellent horse hay
"Forage" tall fescues	Long	Slow	Bunch	200,000	Deep rooted grasses
"Fine turf fescues	Long	Slow	Sod	500,000+	Shade tolerant
Alfalfa	Medium	Medium	Erect	200,000	A legume
White clover	Medium-long	Medium	Erect	800,000	Good on wet soils
Red clover	Short	Slow-medium	Erect	700,000	Good on wet soils
Sub clover	Medium	Medium	Erect	700,000	Expansive root system
Highland bentgrass	Long	Slow-medium	Sod	5,000,000	Low profile grass

Publications of Interest:

Grazing After The Burn: Promoting Economic, Social and Ecological Sustainability. Washington State University. Tip Hudson, WSU Extension rangeland & livestock regional specialist.

<http://county.wsu.edu/kittitas/nrs/forestry/Documents/Post-fire%20grazing%20Hudson%202012.pdf>

Private Forest Landowners and the Oregon Plan 2012: A guide to voluntary actions to assist threatened and endangered fish. For a copy contact the Oregon Department of Forestry, Private Forests Division, 2600 State Street, Salem, OR, 97310 (503)945-7200.

Carbon 101: Understanding the Carbon Cycle and the Forest Carbon Debate. Dr. Jim Bowyer. January 2012. If you're following the debate about the role of forests in the carbon cycle, greenhouse gases, etc., you will find this article interesting.

<http://www.dovetailinc.org/files/DovetailCarbon101Jan2012.pdf>

PNW 630, Basic Forest Inventory Techniques for Family Forest Owners

By Kevin Zobrist, Don Hanley, Amy Grotta and Christopher Schnepf New, March 2012. 70 pages. Printed copy costs \$12, order from <http://extension.oregonstate.edu/catalog>. Printed copies are also available for purchase at the Columbia County Extension office. This manual will teach you how to identify individual forest stands on your property, take a plot sample, establish an inventory plot, and measure individual trees. You will then learn how to compute basic statistics that will help you assess the condition of your forest and plan appropriate management activities.

EC 1137, Designing Woodland Roads

By Steve Bowers

Revised June 2012, 21 pages. Download free of charge at: <http://ir.library.oregonstate.edu/xmlui/bitstream/handle/1957/30039/ec1137.pdf>

Producing and Selling Logs for Maximum Revenue:

Steve Bowers and Scott Leavengood. OSU Extension Service, EM 9047, April 2012. <http://extension.oregonstate.edu/catalog>



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