

Oregon State University Extension Service

# Blue Mountains Renewable Resources Newsletter

Vol. 26, No 2 Spring 2010

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Website: <http://extension.oregonstate.edu/union/index.php>

## Upcoming Events:

### Blue Mountain SAF Chapter Presents: Greenwood Resources Tour Boardman, OR

#### Tree Farm Tour Notice

Tuesday, May 25, 2010 Itinerary;  
7:00 AM meet at Bi-Mart parking lot in  
La Grande (north side near State  
Forestry Office on 20th St.)  
9:00 Introductions and overview at  
Boardman  
9:20 Farm Tour  
12:00 Lunch and mill tours  
1:30-2:00 Depart

We will carpool from the Bi-Mart parking lot. Bring a sack lunch & beverages for the day. Do not forget to RSVP so we may plan ahead for all attending! To RSVP or if you have any questions or need directions please contact Edwin Baird at [ebforestry@gmail.com](mailto:ebforestry@gmail.com) or 541-562-1099

### FOREST HEALTH FIELD DAY

**When:** Thursday, June 3, 2010  
8:00 AM - 4:00 PM

**Where:** Meet at 8:00 a.m. at the OSU Extension Service, Ag Service Center parking lot, 10507 N. McAlister Rd., Island City. Directions: <http://extension.oregonstate.edu/union/find-us>

### What we'll see and do:

- Crud and bugs galore! We'll see a number of key northeast Oregon insects and diseases, including bark beetles, root diseases, foliage diseases and dwarf mistletoes.
- Both identification AND management will be covered.
- This is a great class for woodland owners and managers to get a good overview of many of our most common insect and disease pests and what to do about them.

*Continued on next page*

### Office Closure Notice

Due to the State budget cuts, the Union County OSU 4-H & Extension Service will be closed for the following mandatory furlough days. We are sorry for the inconvenience.

- Friday, May 28, 2010
- Friday, June 25, 2010

Best Regards,

Paul Oester, Extension Forester  
Umatilla, Union & Wallowa Counties

Oregon State University Extension Service offers education program activities and materials without regard to race, color, religion, sex, sexual orientation, age marital status, disability, and disable veteran or Vietnam era veteran-status as required by Title VI of the Civil Rights Act of 1964, Title IX of the Educational Amendments of 1972, and Section 504 of the Rehabilitation Act of 1973. Oregon State University is an Equal Opportunity Employer.

- If you have insect or disease samples you'd like us to identify feel free to bring them. There will be some walking involved so you'll want to bring good hiking boots. Bring a lunch, water and be prepared for inclement weather. Plans are to car pool. Also, we will only have room for 30 people so register early!!

Registration form can be found on the bottom of page 15.

**Forest Landowners Association  
2010 National Conference**

Friday-Sunday, June 2-4  
Stevensen, Washington  
<https://www.forestlandowners.com>

**Union County Forestry &  
Natural Resources Tour**



**Date:** Friday, June 18, 2010

**Time:** 7:00 a.m. Coffee and Connections  
7:30 a.m. Theme: A Day in the Life of a Forester  
2:30 Return

**Location:** Meet at the Conference Room, Ag Service Center, 10507 N. McAlister Rd, Island City, OR. Directions: <http://extension.oregonstate.edu/union/find-us>

**Lunch** will be provided by the Union County 4-H Exchange Group

**What we'll see and talk around the common theme for the day: A Day in the Life of a Forester**

- High tech in the forestry world- assessments, inventory, mapping, fire modeling, stand modeling and other tools
- Making decisions in the field: forest measurements, a fixed-plot exercise, managing young and mature stands, market factors
- Woodland owner perspectives and stewardship planning and how this effects managing the forest, role of consultants, woodland owner programs and assistance

- Small sawmill demo and value added product opportunities
- The role research can play for small and large forestland owners with examples from forest grazing and vegetation management
- The big picture, how multiple ownerships meet landscape needs
- We'll visit several ownership sites and have the opportunity to see how a forester, no matter what their affiliation, handles the many challenges and opportunities our forestlands offer

Please **RSVP** by Wednesday, June 16 by calling the Union County OSU Extension Office at 541-963-1010 so we can plan for buses and lunch. Lunch and transportation are provided. There is no charge for this tour.

**PNW Christmas Tree Association Summer Meeting**

Friday-Saturday, June 18-19  
Spirit Mountain Casino  
Grand Ronde  
<http://www.nwtrees.com/index2.html>

**Forest Products Harvest Tax (FPHT) Change for 2009**

For those of you who conducted a timber sale during the 2009 calendar year, the Forest Products Harvest Tax rate changed again in 2009.

Rates had actually been lowered for a couple years, but now we're back to increases.



The FPHT rate for the 2009 calendar year has been revised to \$3.89/MBF. Logs AND chips are subject to the FPHT. If you harvested chips, the conversion factor to MBF is to divide tons by a factor of 5. If chips were generated through green logs then the conversion factor is 11.

The FPHT revenues go to a myriad of agencies, including the Forest Research Laboratory at Oregon State University, Oregon Department of Forestry for emergency firefighting

and the administration of the Forest Practices Act, and the Oregon Forest Resources Institute (OFRI). OFRI is a major contributor to OSU Forestry Extension programming. And remember, the first 25 MBF of a timber harvest is exempt from the tax.

It is important to remember that whether you are enrolled in the Small Tract Forestland Option (STF) or the Forestland Program, FPHT taxes are owed for all harvested timber, excluding the 25 MBF exemption.

*Woodlander, Spring 2010*

## Western & Eastern Oregon Severance Tax 2009

Woodland owners harvesting timber in 2009, and having signed up for the Small Tract Forestland (STF) Option, owe a Severance Tax on their timber and/or logs. The Severance Tax operates on the calendar year and is linked to land values (i.e. property taxes).

*Delivered*

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

*April 15, 2010*

<b>Umatilla/Pendleton</b>								
Douglas-fir /Larch	Ponderosa Pine				Grand fir /White fir	Lodgepole Pine	Engelmann Spruce	Pulp/Chip Logs
	6-11"	12-17"	18-24"	25+"				
\$273	\$250	\$360	\$400	\$400	\$205	\$250	\$250	call
<b>La Grande/Elgin/Joseph</b>								
Douglas-fir /Larch	Ponderosa Pine				Grand fir /White fir	Lodgepole Pine	Engelmann Spruce	Pulp/Chip Logs
	6-11"	12-17"	18+"	20-24"				
\$300	call	—	—	—	\$240	\$240	\$240	call
<b>Burns/John Day</b>								
Douglas-fir /Larch	Ponderosa Pine				Grand fir /White fir	Lodgepole Pine	Engelmann Spruce	Pulp/Chip Logs
	8-11"	12-17"	18+"					
\$255		\$250	\$360	\$400+	195	—	—	call
<i>Source: Oregon Log Market Report, Editor John Lindberg, ph 360-693-6766, fax 360-694-8466, logmkt@comcast.net</i>								

Taxes on the harvest are due in January of the following year. The Western Oregon Severance Tax rate for 2009 is \$4.48/MBF with NO DEDUCTIONS! Eastern Oregon Severance Tax rate is \$3.50/MBF with NO DEDUCTIONS!

For additional information and/or clarification, you can visit the following web site: [www.oregon.gov/DOR/TIMBER/index.shtml](http://www.oregon.gov/DOR/TIMBER/index.shtml)

*Woodlander, Spring 2010*

## Tree Protection on Construction and Development Sites

The Oregon Dept. of Forestry, Oregon State University Extension, Washington State University Extension, and the Washington Dept. of Natural Resources are pleased to announce the availability of a new publication, "Tree Protection on Construction and Development Sites: A Best Management Practices Guidebook for the Pacific Northwest". This new publication was produced with the help of a grant from the USDA Forest Service, and

is modeled after one from the City of Chattanooga, Tennessee. This publication is also part of an effort to address the effects of forest fragmentation. You can obtain a free copy by sending an email to: [dpeden@odf.state.or.us](mailto:dpeden@odf.state.or.us) or calling 503-945-7386 or dropping by the OSU Extension Union County Office.

## Log Prices and Trends

By: Steve Bowers, OSU Extension Agent, Douglas County

Note: Although this article has westside references, many of the comments apply to all of Oregon.

This issue is a little heavy on log prices and trends, but it is the time of year it is entering people's minds. What if someone said, "Log prices are up 50% since last May!" You'd think, 'holy smokes, I better get that saw sharpened-up.' Well, not so fast. Let's keep in mind Westside Douglas-fir log prices bottomed-out late last spring at about \$300/MBF. A 50% increase in that price level jumps us up to a booming \$450/MBF! Heck of a lot better than a year ago, but a heck of a long way to go.

So just what's going-on with log prices these days? Current Doug-fir, long log values, really are about \$450/MBF (Westside). There are buyers at these prices, but they're not beating down your door, so it's up to the seller to

seek out an active buyer because many of the western Oregon mills continue to operate at below capacity. Over the past few weeks, there has been a substantial increase in log delivered to local mills. Keep in mind this is partially due to an increase in lumber prices, so there are some available product markets. But also keep in mind that values have been so poor for so long, that many of the log inventories were growing precariously low and mills needed to "re-stock."

Pessimists (or realists?) tell us that recent increases in the demand for logs and lumbers merely constitutes inventories and not a growing demand for lumber. The optimist says demand for housing is projected to increase 10-15% per year through 2013, and with a steady increase for lumber, log values will follow suit. So who's right? The past couple years, "experts" have kept telling us the values will increase "in the next quarter," or "early next year." That 'next quarter' and 'next year' has come-and-gone and we've yet to see these projected increased in demand.

So I'm going to give my "two bits" to the debate. Currently, we're seeing an increase in log values, and a slightly less increase in actual demand, for the following reasons. First, log inventories did get quite low because you folks quit cutting trees, unable to justify a logging operation and giving most of the money to the logger and trucker: no disrespect intended to any party. Secondly, the time of year for building activity is approaching (dry months) and even with a depressed economy, there will be some demand for lumber, but a temporary one. Lastly, with the recent increase in values, a number of woodland owners, for financial reasons, couldn't wait any longer and are cutting trees. This will extend in to the dry months, increasing supply, driving down demand and prices will be back later this year to near the levels they were last fall.

The following graphs represent some research that has been done over the past few months, partially explaining log prices. Housing ac-

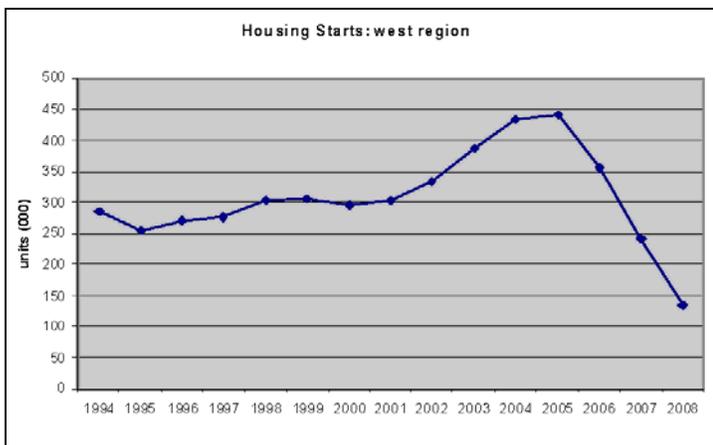


Figure 1.

counts for almost half of our lumber demand (Figure 1). As housing goes, so goes log values. Speaking of housing, Random Lengths™ and Douglas-fir log values go hand-in-hand. There is a slight lag between the two, but very similar in reaction to general economic indicators (Figure 2).

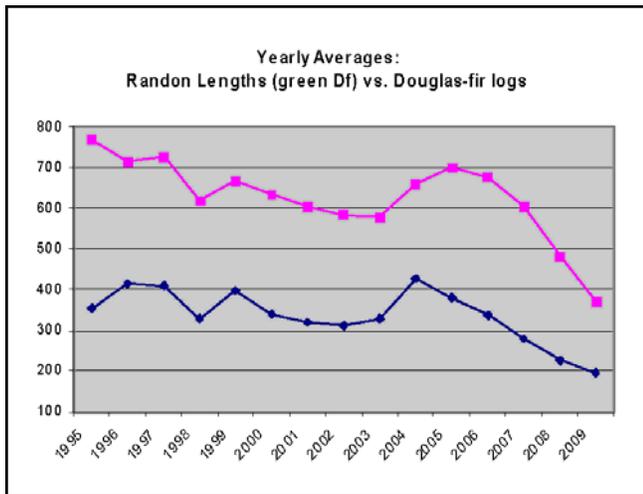


Figure 2

Lastly, look at 1993-2008 and months of high log values vs. low ones [the paired bars represent highs (left) and lows (right)] side. Feb. through May are the times to sell and avoid July through September (Figure 3).

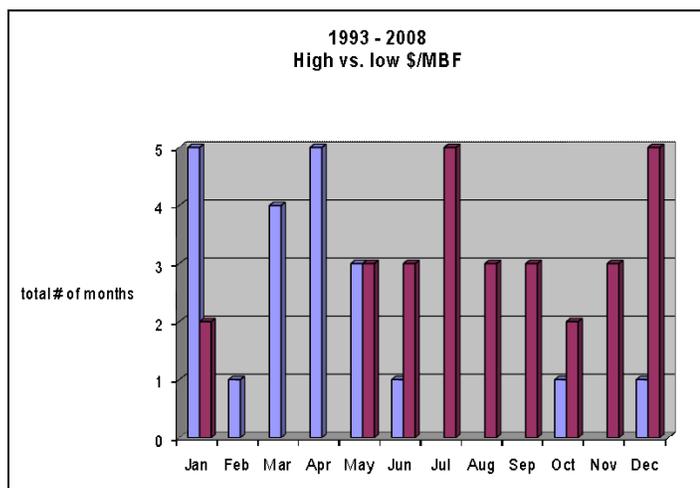


Figure 3

## New Tree Farm Certification Standards Released

By: Rick Fletcher, OSU Extension Forester, Linn and Benton Counties

The American Forest Foundation (AFF) recently announced updated Standards of Sustainability for Forest Certification, for use with its nationwide Tree Farm program. The standard revision process occurs every 5 years, so the new Standards replace the current ones which ran from 2004-2009. The 2010-2015 AFF Standards were developed by an independent panel of experts, representing academia, conservation organizations, Federal and State governments, landowners, and foresters. Bob Simpson, AFF Senior Vice President for the Center for Family Forests said "Although our American Tree Farm(ATF) certification program is the oldest in America, founded in 1941, we are constantly working to improve our standards to make them fit new conservation forestry practices and consumer expectations. Consumers want to be able to rely on green brands, and the ATFS brand continues to grow in stature and acceptance."

### The 6 things AFF wants you to know about the new Standards

(material adapted from AFF communication, January 2010).

#### 1) Designed for small woodland owners:

These Standards were developed specifically for small woodland owners. The independent panel took care to ensure that the requirements were appropriate for the scale of management practiced on family woodlands across the United States. Industrial companies who manage large landscapes are excluded from participating.

#### 2) Management plan: The management plan requirements help streamline the

process for Tree Farmers to participate in USDA conservation incentive programs. The management plan requirements under the 2010-2015 Standards correlate with the US Forest Service guidelines for forest stewardship program forest management plans. If you have a Stewardship Plan, it can be used also for the Tree Farm program and vice versa. AFF is also currently working with NRCS to make a similar arrangement. This is important for many owners because of the high amount of forestry related cost-share money coming through NRCS these days.

**3) Special Sites:** As the current Standards do, the 2010-2015 Standards require maintenance of special cultural and environmental sites (historical, archeological, geological, High Conservation Value Forests, biological and ecological sites). ATFS will be introducing new tools on the Tree Farm website to help landowners research special sites in their state and on their certified Tree Farms ([www.treefarmssystem.org/woodlandresources](http://www.treefarmssystem.org/woodlandresources))

**4) Monitoring:** Periodic monitoring has been added to the Standards to encourage landowners to monitor their woodlands for changes that could interfere with their management objectives. Things to be on the lookout for include pest outbreaks (pine beetle, emerald ash borer, etc), invasive species encroachment (kudzu, Canadian thistle), and indications of trespass. Many landowners are already doing things like walking their boundaries, and inspecting after a thinning or planting for new groups of invasive species.

**5) Invasive Species:** Tree Farmers are encouraged to make practical efforts to prevent, eradicate or otherwise control invasive species using a range of integrated pest management methods. Integrated pest management methods may include pesti-



cides, physical removal methods and preventative methods.

**6) One year to implement:** The new Standards were officially released January 1, 2010, and Tree Farmers will have one year to ensure their management plans and management activities meet the Standards. All volunteer inspectors will be retrained to the new Standards within the year and we will be working with state programs to provide education to Tree Farmers about the changes. To read the new Standards, visit [http://www.forestfoundation.org/cff\\_standards.html](http://www.forestfoundation.org/cff_standards.html). More detailed information on the Standards will be provided in the March/April *Tree Farmer* magazine, this year's complimentary issue.

If you have questions about what the Standard means by terms like High Conservation Value Forests, look for definitions at the end of the Standard in the glossary of terminology. Also, pay close attention to the words must or should. These terms tell you what is negotiable and what is not in terms of requirements. AFF is currently working on a Guidance Document to go with the Standards. It will clarify and give examples of what the writers had in mind for each of the criteria and indicators within the Standard. AFF is also rolling out a training package of materials in late February, so stay tuned for more information as the year progresses.

## Tips from the Treeman

**Dear Treeman,** Are we all going to die--those of us who walk and work in the woods of Oregon--as the *Cryptococcus gatti* moves south out of the Canadian backwoods?  
--*Timber Farmer Jim*

**Dear Jim,** *Cryptococcus gatti* is a yeast - like fungus that historically was found in

tropical and subtropical climates. It is acquired through inhalation and causes lung infections, certain types of meningitis, and is associated with skin, soft tissue, lymph node, bone and joint infections. In recent years, it has appeared in British Columbia. Scientists say its appearance so far north is a consequence of global warming. Chalk one up for Al Gore.

In British Columbia, the disease was identified in animals about ten years ago. Since then, officials have reported an average of about 25 cases per year with a total of eight deaths. Transmission of the disease is uncertain, but the typical modus operandi includes footwear, vehicle wheel wells, construction and forestry activity, and water. Regardless, the disease has spread south with the first cases reported in Oregon in 2004. As of last spring, a total of 19 cases had been reported in the United States.

Formal surveillance measures have been ongoing in British Columbia since 2003. Currently, there are no routine surveillance programs existing in the United States. Scientists contend because of the lack of a coordinated program, cases of the disease are likely underestimated in the U.S. They also tell us that from a long-term public health perspective, it is important to gain an understanding of how the disease was introduced and spread within the Pacific Northwest, including the possible role of global climate change, deforestation and increased land use.

But as in all aspects of our lives, we need to keep things in perspective. Every eight minutes someone in the country is hit by a car. So does GM stand for Grand Mortality? Every two hours someone is hit by a train. **Another Mortality Tracing Railroads As Complicitous?** And we subsidize both these outfits! And lest we forget the thousands dying every year from the common flu. Statistically, logging remains the most dangerous occupation in the country with fatalities recorded every

year. But I'll take my chances with my axe and my chainsaw.  
--*Treeman*

## New Discovery about How Water Moves Through Soil

**Some of the most fundamental assumptions of water movement might be incorrect** Republished from a January, 2010 press release by [Oregon State University](#).

### Behavior of Water in Soil Surprises Researchers

Researchers have discovered that some of the most fundamental assumptions about how water moves through soil in a seasonally dry climate such as the Pacific Northwest are incorrect – and that a century of research based on those assumptions will have to be reconsidered.



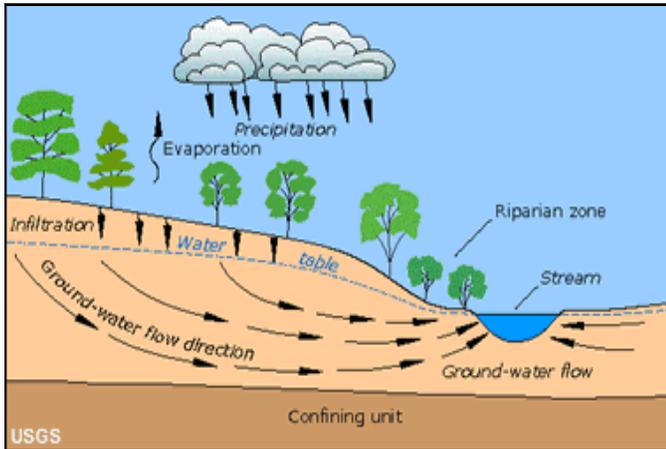
A new study by scientists from Oregon State University and the Environmental Protection Agency showed – much to the surprise of the researchers – that soil clings tenaciously to the first precipitation

after a dry summer, and holds it so tightly that it almost never mixes with other water.

### Implications of the Discovery

The finding is so significant, researchers said, that they aren't even sure yet what it may mean. But it could affect our understanding of how pollutants move through soils, how nutrients get transported from soils to streams, how streams function and even how vegetation might respond to climate change.

The research has been published in *Nature Geoscience*, a professional journal, with a title of "Ecohydrologic separation of water between trees and streams in a Mediterranean climate".



The study found in one test that after the first large rainstorm in October, only 4 percent of the precipitation entering the soil ended up in the stream— 96 percent was taken up and held tightly by soil around plants to recharge soil moisture. A month later when soil moisture was fully recharged, 55 percent of precipitation went directly into streams. This is contrary to widely-held assumptions of how water behaves in soils. USGS image.

### Two Modes of Water Occurrence in Soil

“Water in mountains such as the Cascade Range of Oregon and Washington basically exists in two separate worlds,” said Jeff McDonnell, an OSU distinguished professor and holder of the Richardson Chair in Watershed Science in the OSU College of Forestry. “We used to believe that when new precipitation entered the soil, it mixed well with other water and eventually moved to streams. We just found out that isn’t true.”

“This could have enormous implications for our understanding of watershed function,” he said. “It challenges about 100 years of conventional thinking.”

### Soil Near Plant Roots Attracts and Holds Water

What actually happens, the study showed, is that the small pores around plant roots fill with water that gets held there until it’s eventually used up in plant transpiration back to the atmosphere. Then new water becomes available with the return of fall rains, replenishes these small localized reservoirs near the plants and repeats the process. But all the other water moving through larger pores

is essentially separate and almost never intermingles with that used by plants during the dry summer.

The study found in one test, for instance, that after the first large rainstorm in October, only 4 percent of the precipitation entering the soil ended up in the stream – 96 percent was taken up and held tightly by soil around plants to recharge soil moisture. A month later when soil moisture was fully recharged, 55 percent of precipitation went directly into streams. And as winter rains continue to pour moisture into the ground, almost all of the water that originally recharged the soil around plants remains held tightly in the soil – it never moves or mixes.

“This tells us that we have a less complete understanding of how water moves through soils, and is affected by them, than we thought we did,” said Renee Brooks, a research plant physiologist with the EPA and courtesy faculty in the OSU Department of Forest Ecosystems and Society.

### Mathematical Models Have Incorrect Assumptions

“Our mathematical models of ecosystem function are based on certain assumptions



Much to the surprise of researchers, soil near plant roots attracts and clings tenaciously to the first precipitation after a dry summer, and holds it so tightly that it almost never mixes with other water. USDA image.

about biological processes,” Brooks said. “This changes some of those assumptions. Among the implications is that we may have to reconsider how other things move through soils that we are interested in, such as nutrients or pollutants.”

### **Stable Isotope "Fingerprints" of Water**

The new findings were made possible by advances in the speed and efficiency of stable isotope analyses of water, which allowed scientists to essentially “fingerprint” water and tell where it came from and where it moved to. Never before was it possible to make so many isotopic measurements and get a better view of water origin and movement, the researchers said.

The study also points out the incredible ability of plants to take up water that is so tightly bound to the soil, with forces nothing else in nature can match.

### **Support and Acknowledgement**

The research was conducted in the H.J. Andrews Experimental Forest near Blue River, Ore., a part of the nation’s Long Term Ecological Research, or LTER Program. It was supported by the EPA.

About the OSU College of Forestry: For a century, the College of Forestry has been a world class center of teaching, learning and research. It offers graduate and undergraduate degree programs in sustaining ecosystems, managing forests and manufacturing wood products; conducts basic and applied research on the nature and use of forests; and operates 14,000 acres of college forests.

### **Value of private forests concerns landowners**

Private forestland owners can make more money selling their land for subdivisions

than harvesting it for timber.

It’s a simple equation—and potentially catastrophic, said Matt Donegan, the co-president of Forest Capital Partners.

Donegan was among the industry leaders guiding a tour of some of Benton County’s private forestlands Friday afternoon. The tour was hosted by the Oregon Forest Resources Institute and drew participants from both the public and private sectors. OFRI was created by the 1991 Legislature to educate the public on forest issues. Institute officials host these tours annually.

Everyone needs to be concerned about America’s dwindling private forests, Donegan said. As forests are destroyed, he said, no one escapes unharmed.

Forest Capital Partners buys and manages forests across North America. Donegan said more than a million acres of forestland—roughly the size of Delaware—are lost every year. “Once these forestlands are gone, they’re gone,” he said. And they take thousands of jobs with them.

In Oregon, about 85,000 people directly depend on the timber industry for their livelihoods.

About two dozen of those people work for Barte Starker. He’s one of the co-owners of Starker Forests. The company owns 73,000 acres of timberland in Benton, Polk and Yamhill counties. Benton County accounts for 80 percent of its property. Beyond the 22 people who work directly for the company are more than 100 independent contractors.

Times are beyond tough, he said. “As forestlands are converted or degraded, it puts pressure on jobs.”

Private timber growers have to compete on a global scale. Escalating costs stand between the trees and getting wood products to consumers, he said.



Plus, there are hidden costs. Private timber growers have to pay for most of their fire protection, Starker said. Only 40 percent of the money for fire protection comes from state government (western Oregon).

It doesn't help that Oregon's population is growing, he said. "There's bound to be friction between the interest in keeping forests and finding places for people to live," Starker said. Few people like the idea of sacrificing forests for development, he said, but they don't comprehend the pressure on timber growers.

"The public doesn't understand that as the value of timberland goes down, the disparity between the value of land for forests and land for real estate is increasing."

More and more forestland is surrounded by sprawling real-estate developments, he said.

"If you fragment forestland, it's not good for animals, drinking water or recreation," Donegan said.

He has a list of proposed solutions. The first is increasing the value of Oregon's forestland. This includes supporting research and innovation in forest-products manufacturing.

Oregon State University's new Wood Innovation Center serves as a model for such innovation, he said.

Another proposal would provide private timber growers with tax incentives for making their forests available to the public for recreation. Donegan said this goes in line with paying timber growers to use their trees to store atmospheric carbon, which contributes to global warming.

This could be a particularly popular idea, he said, given growing global environmental

concerns.

Donegan also proposes a series of incentives and rules to keep growers from converting their land to development.

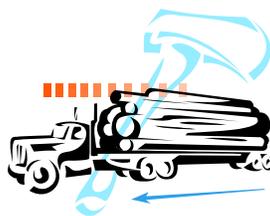
"This is the conservation issue of our time," he said. "It touches everything."

*Used with permission from Corvallis Gazette Times*

## Oregon Forest Industry Directory

Remember to use the Oregon Forest Industry Directory if you are looking for wood

market buyers and sellers. This website includes log buyers, log sellers, log home builders, post and poles, lumber beams & timbers, pallets, boxes and crates, millwork, molding, millwork, doors and windows, forestry services, cabinets, furniture, firewood, non-timber & special forest products, custom sawyers, secondary manufacturing, tree seedlings, etc. Go to: <http://www.orforestdirectory.com> for a look.



## Underproductive Forestland Conversion Tax Credit

### Oregon's 50% tax Credit.

The Oregon Underproductive Forestland Conversion Tax Credit provides a 50% state income tax credit for qualified reforestation projects. Eligible costs include the application fee (starting with projects planted in 2008), materials, labor excluding self-labor, and maintenance costs. Financial assistance from an incentive program must be deducted from your reforestation costs.

### Important tips

1. Discuss the proposed project with your local stewardship forester **before** starting work.

2. When project work is completed, determine if it qualifies for the tax credit before submitting the application and fee.

#### Goals & Specifications

- 50% of the cost of establishing a stand of trees on underproductive forestland may be applied as a credit against Oregon state taxes.
- Applies on brushland, grassland, or on very poorly stocked forestland.

Application and eligibility (pdf) information is available online at: [http://www.oregon.gov/ODF/private\\_forests/docs/taxcredit.pdf](http://www.oregon.gov/ODF/private_forests/docs/taxcredit.pdf). The program application fee has increased on all projects from \$300 to \$400.

Your local ODF Stewardship forester can provide further details on this tax credit and other financial incentive programs.

## Forest health in Oregon: State of the State:

A conference report. By Hal Hagglund, MWM volunteer, Sheridan

The conference reviewed a wide range of issues effecting the health of Oregon's forests, including climate, fire, forest vegetation management, native and invasive insects and diseases. The February conference was sponsored by the OSU College of Forestry and Forestry and Natural Resources Extension Program. Presentations from the conference are now available online at : <http://oregonstate.edu/conferences/foresthealth2010/>.

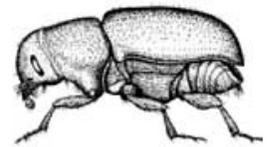
Some conference highlights include:

**Climate Change:** models for Oregon show temperatures will rise, along with more extreme weather events such as windstorms, floods, snowstorms, and hot dry spells. Experts predict total annual precipitation will be about the same, but with different distributions that could mean drier summers in some

areas. Drought stress will affect growth and vigor as well as trees' defenses to pests and diseases. The distribution of some species may be expected to change over time.

**Fire:** Oregon forests are fire-loving, especially east of the Cascades where historic fire return intervals were as low as 5 to 30 years. Fire exclusion has increased fuel loads and fire intensity. Presenters talked of the need to return to lower stocking levels that reflect historic conditions. Sparky Bear was introduced as a counterpart to Smokey Bear to use fire as a tool.

**Mountain Pine Beetle:** mountain pine beetle infestations have occurred historically. The current large outbreak east of Klamath Falls may be due to the increased density of lodgepole pine and the prevalence of mature trees, the beetles preferred target. The current infestations will run its course, the dead forests will likely burn, stimulating germination of the lodgepole pine seed, and starting the cycle over.



**Swiss Needle Cast:** Swiss needle cast is a native forest pathogen found throughout Douglas-fir forests. It is causing serious problems in Douglas-fir stands in the spruce-hemlock zone near the coast. Scientists are watching closely for intensification or spread of the disease, investigating possible management options including conversion strategies, fertilization, and genetic resistance.

**Invasives:** Port-Orford-cedar root rot, (*Phytophthora lateralis*) is a water-mold spread by movement of water and contaminated soil. Removing Port-Orford-cedars from roadsides and cleaning equipment would help to reduce the spread of this root rot. White pine blister rust, (*Cronartium ribicola*) is a fungus which also infects white bark, limber, and sugar pines. Resistant western white pine are being developed and encouraged to be planted. Sudden oak death is caused by an invasive

water mold (*Phytophthora remorum*). It is not known where it originated. It is found in 14 counties in California, 2 countries in Europe, and was discovered in 2001 near Brookings, Oregon. It causes death in tanoak and leaf blight or shoot dieback on many other species including rhododendron and Douglas-fir. It is a huge threat to Oregon's nursery industry.

**Surveillance:** The Oregon Department of Forestry and U.S. Forest Service conduct aerial surveys each year to assess forest health in Oregon. The Oregon Department of Agriculture monitors for exotic defoliators and invasive bark and wood boring beetles and ambrosia beetles.

So, are Oregon's forests healthy? The take home message seems to be that "good" health depends on one's goals. Active management has an important role to play in improving forest health.

## Pine Engraver Beetles in Oregon

By Paul Oester and Dave Shaw

### Introduction

Pine engravers (*Ips* species) are bark beetles (Figure 1) that prefer smaller diameter trees and tops and branches of larger trees. There are two primary pine engraver species in Oregon: the California fivespined Ips (*Ips paraconfusus*) and the pine engraver (*Ips pini*). The pine engraver occurs throughout Oregon, but the fivespined Ips is found west of the Cascades and predominates there. Although these beetles can be found attacking any species of pine, they are commonly found on ponderosa, Willamette Valley ponderosa, lodgepole and Jeffrey pines.

Unlike the mountain pine beetle or Douglas-fir beetle, pine engravers have two or three generations per year. The second (July) and

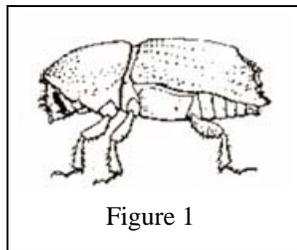


Figure 1

third (September) generations of engraver beetles are the most likely to kill trees. Logging or pre-commercial thinning slash and winter damage (broken out tops or wind thrown trees) are common host materials. When present in spring (April) and early summer (July), slash allows these beetles to build up large populations and kill small trees (2 to 8 in) and tops of larger trees.

### Diagnosis

Look for groups of small dead trees in close proximity to slash or heavy winter damage and large trees with the top 1/2 to 2/3 killed. On tree boles, you'll see reddish brown boring dust in the bark crevices and at the base of standing trees. Foliage can begin fading within a few weeks of attack or in the fall or the following spring after attack. Scrape away the bark and at the bark/wood interface check for beetle galleries. A typical pattern is a longitudinal Y or H shaped egg gallery that is free of boring dust (frass) and slightly etched into the sapwood (Figure 2). If you find a pine engraver beetle they will be about 1/8 to 3/16 in long and have a dish-shaped depression on the posterior end of the wing covers with four (*Ips pini*) or five (*Ips paraconfusus*) spines along each side (Figure 1). For more information on identification see Goheen and Willhite 2006.

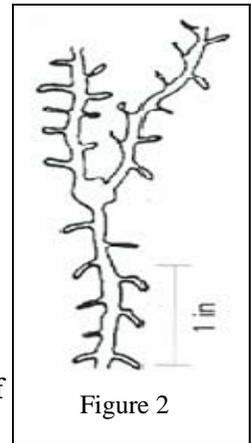


Figure 2

### Life Cycle and Flight Period

As mentioned, there are two or more generations a year in Oregon. The first generation is in early spring as soon as temperatures begin reaching 60-70° F. Adult beetles emerge from overwintering sites under the bark or from the forest duff layer and seek out downed host material such as slash and winter breakage. Eggs are laid and a brood develops, emerging to seek new host material in late June or early

July. It is this second generation that can cause tree and top kill. Large amounts of spring brood material from logging, thinning or winter damage during a period from January to June can generate large populations which emerge in the summer.

Little if any tree mortality occurs during the spring flight because trees typically have good water availability at that time, overwinter mortality has kept populations low and downed host material is sufficient to absorb spring populations. However, the situation changes for the second generation. During late June and July trees are under higher moisture stress and emerging beetles can attack and kill standing trees, especially during drought years. A third generation is possible, especially farther south or if warm temperatures continue late into fall. The more slash and winter damage that is available as spring host material, the higher beetle populations will be in the second generation and the higher the risk of tree killing. Adult beetles typically don't fly too far, probably ¼ to ½ mile.

### **Slash management for pine engraver beetles**

Managing slash and winter breakage is the key to minimizing damage.

- Log or thin after late July and before winter. Slash dries out enough that it does not provide good host material for beetles the following spring.
- If possible, do not log or thin pine in winter or spring unless you use or dispose of slash greater than 3 inches in diameter. Dispose of slash by burning, chipping, or dozer trampling or by lopping into smaller pieces and scattering it in forest openings.
- If you generate pine slash in winter or spring, create a "green chain"—a continuous supply of green slash throughout the second-generation flight period (and beyond, if more generations are

expected), which provides the beetles an alternative to standing trees.

- Or, build very large slash piles: about 20 feet across and 10 feet deep. If large enough, interior pieces won't dry out because they're shaded. In spring, beetles attack the outside layers of the pile; in July, when they seek new host material, they will migrate deeper into the pile instead of flying to nearby standing trees. (This technique has not been widely tested.)
- To kill beetles in slash or firewood, cover completely with clear plastic. Make sure the covered piles are not shaded.
- Don't stack fresh pine firewood close to live pines.

### **General management guidelines**

Thinned, vigorous stands of pine are less susceptible to pine engraver damage. Keep pine stand density below the self-thinning threshold and retain trees with good, healthy crowns and crown ratios of at least 30 percent. In trees under stress, elevated beetle populations can overcome and kill small trees and tops of larger trees. Drought increases stand vulnerability and can extend the period of tree mortality. In most cases, expect most mortality in the year the *Ips* population builds up, which usually lasts no more than 2-3 years. If host material is available the next winter or spring, or if droughty conditions develop, mortality can be anticipated to persist. *Ips* can also be significant in fire-injured hosts. Other general management recommendations include keeping stand damage to a minimum when logging and match species to the site so trees are well adapted and grow vigorously.

### **Insecticides-Prevention**

Insecticides have proven effective for preventing bark beetle attack on standing

live trees. This is an option when individual, high value trees are targeted for protection; but is not a practical solution at the stand level. Currently, registered insecticides include carbaryl e.g. Sevin SL and others), permethrin (e.g. Astro) and bifenthrin (e.g. Onyx). Carbaryl can be used in forest and backyard situations and should afford two years of protection. The other two insecticides are for landscape applications and protection normally lasts for one year. For preventing *Ips* attacks in most situations in Oregon, the insecticide needs to be applied to the bark of the tree prior to the second generation flight. Because *Ips* beetles can attack small diameter stems, the insecticide solution needs to be applied to the top of the tree (3-4 inch diameter), otherwise the top may be attacked and killed.

### Chipping or “slash busting”

This technique has gained popularity as a fuel reduction treatment in the Wildland-Urban Interface and forest thinnings. Although costs are high, these treatments can thin small diameter trees and reduce fire risk in one operation. The small pieces generated in this operation are too small to allow *Ips* to colonize and dry out quickly. However, there has been some concern among landowners and managers about the host volatiles in the small pieces attracting *Ips* and other bark beetles to the treatment site where they may attack standing trees. In the southwest and California (Fettig, et al. 2006) there is



evidence that chipping can increase attacks on residual trees, although mortality rates were not significant. Fettig, et al 2006 and DeGomez, et al 2008 provide management guidelines. In Oregon, no formal stud-

ies have been initiated; however anecdotal evidence suggests that chipping or slash busting does not cause an increase in leave tree mortality.

### Pheromones

These compounds are typically used by bark beetles to cause a specific behavioral or physiological reaction in a receiving individual of the same species (DeGomez, et al 2008). Although a number of studies show promise using pheromones as management tools there is no commercially available product for protecting logging slash (DeGomez, et al 2008).

### For more information:

- Goheen, E.M. and E.A. Willhite. 2006. Field Guide to Common Diseases and Insect Pests of Oregon and Washington Conifers. R6-NR-FID-01-06. Portland, OR: USDA Forest Service, Pacific Northwest Region. 327p. Available from U.S. Government Printing Office <http://www.gpo.gov/> and from OSU Bookstore <http://www.osubookstore.com/> or call OSU Bookstore at 541-737-4323 or 1-800-595-0357
- Shaw, D.C., P.T. Oester, and G.M. Filip. 2009. Managing Insects and Diseases of Oregon Conifers. Oregon State University Extension Service, EM 8980. 104p (order online: <http://extension.oregonstate.edu/catalog/>)
- Insect and Disease Pest Note series, Oregon Department of Forestry. <http://www.oregon.gov/ODF/privateforests/fh.shtml>
- USDA Forest Service, Forest Health Protection, P.O. Box 3623, Portland, OR 97208-3623. pini - <http://www.fs.fed.us/r6/nr/fid/fidls/fidl-122.htm> para - <http://www.fs.fed.us/r6/nr/fid/fidls/fidl-102.htm>
- Fettig, C.J., J.D. McMillin, J.A. Anhold, S.M. Hamud, R.R. Borys, C.P. Dabney, and S.J. Seybold. 2006. The effects of mechanical fuel redcu-

tion treatments on the activity of bark beetles (Coleoptera: Scolytidae) infesting ponderosa pine. *Forest Ecology and Management*. 230:55-68.

- DeGomez, T., C.J. Fettig, J.D. McMillin, J. A. Anhold, and C. Hays. 2008. Managing Slash to Minimize Colonization of Residual Trees by Ips and Other Bark Beetle Species Following Thinning in Southwestern Ponderosa Pine. University of Arizona Publication, AZ1448.12p.

## Looking Out for the Pileated Woodpecker

### Research Summary

The pileated woodpecker is a species of conservation concern and a keystone species in mature and old forests of the Pacific Northwest. In the Blue Mountains of Northeast Oregon, researchers from PNW Research Station in La Grande, Oregon, studied the effects of natural and human-caused disturbance on pileated populations and their habitat over a period spanning from 1973 to 2005. During this

time, several pervasive insect outbreaks transformed the forest characterized by predominately live conifers with dense canopy cover (prime pileated habitat) to one with increasing numbers of snags and downed wood. Logging for forest restoration and fuel reduction treatments also took place, further impacting habitat for the birds.

The researchers were able to compare the effects on pileated populations at various stages as their environment changed. They found, surprisingly, that despite heavy tree mortality, the number of nesting pairs, their reproductive success, and home range locations remained fairly consistent—provided that dead trees and logs remained abundant and extensive logging had not occurred. Conversely, nesting pair numbers and reproductive success decreased significantly where extensive regeneration cuts eliminated many nest and roost trees, as well as snags and downed wood where the birds forage for insects.

*Science Findings, Issue 1091, Jan. 2009*

## Registration

### FOREST HEALTH FIELD DAY REGISTRATION FORM

Name: \_\_\_\_\_ Date: \_\_\_\_\_

Address: \_\_\_\_\_ Phone: \_\_\_\_\_

Number attending: \_\_\_\_\_

We would appreciate you pre-registering to help prepare handout materials.

**Pre-registration deadline:** Tuesday, June 1st

FEE: \$15.00 per person or \$20.00 per couple to help pay for Dave's travel costs.

**Send registration form with fee to:**

OSU Union County Extension Office, 10507 N. McAlister Rd, LaGrande, OR 97850

Call 541-963-1010 for more information.

Make Checks payable to: OSU Extension Service

## Publications of Interest:

**Landowner Fire Liability** published in 2007, this excellent summary of Oregon's landowner fire liability laws help landowners and others get a better understanding of their liability risk. For a copy, contact the OSU extension Union County Office at 541-963-1010

**Fallers Logging Safety.** A recent publication by Oregon Fatality Assessment and Control Evaluation. This booklet is an excellent review for loggers, safety trainers, safety and health colleagues and students. To receive a free copy write to: OR-FACE/CROET C606, Oregon Health & Science University, 3181 SW Sam Jackson Park Rd. Portland, OR 97239-9878. You can also go online: [www.ohsu.edu/croet/face](http://www.ohsu.edu/croet/face)

**Measuring Timber Products Harvested from your Woodland (EC-1127-E)** Authors: Paul Oester and Steve Bowers. 19 pages, no charge.

Available online only at <http://extension.oregonstate.edu/catalog/> (search for EC 1127-E) This revised publication describes measurements used to buy and sell timber products, including sawlogs, peeler logs, pulp, poles, and firewood.

The Oregon Forest Resources institute has produced a new publication: **Wildlife in Managed Forests: Stream-Associated Amphibians.** One quarter of amphibians in the northwest depend on headwater streams for food, cover and breeding habitat. Most of these headwaters originate in forestland. How do forest management choices affect this sensitive class of species? This report introduces you to the common amphibians of the region and explores the relationship between forest management and amphibian health. Order or download a free copy by visiting <http://www.oregonforests.org> or call 971-673-2944



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