Oregon State University Extension Service

TALL TIMBER TOPICS

A newsletter for those interested in Forestry, Woodland Management and Christmas Trees in Northwest Oregon

Summer 2018

Upcoming Events to Attend

Summer field tour season is in full swing, with the three local Small Woodlands' chapters each holding their annual woodland tours this week. If you missed these, there are more opportunities for some outdoor learning and sharing of ideas while the days are still long and warm. Here are some that I know of.

Saturday, August 25th: "The Future of Forest Creatures". We know that animals and plants, in addition to trees, are important parts of our local forests. How are forest-dependent animals doing in our northern Coast Range forests? What are we doing—and could we do—to help them, and how might they benefit us? This active workshop led by expert biologists will engage 30 participants in exploring these and related questions. Hyla Woods' 750-acre Mt. Richmond Forest will serve as the setting. Time: 8:30 am—noon, BYO picnic lunch to follow. No cost to attend, but space is limited. To register, please email washcosmallwoodlandsassoc@gmail.com or leave a message at 503-703-6573 by August 20th. This workshop is a program offering of Washington Small Woodlands Association, Hyla Woods, Oregon Dept of Fish & Wildlife, Pacific University, and US Fish & Wildlife Service.

Early Sept. TBA: Matteson Forest Harvest Tour. This has been pushed back due to operator availability. We'll see a cut-to-length thinning project in progress, as well as an area where small gaps are being created to improve diversity within the stand. This event will take place before the next Tall Timber Topics, so once we have a firm date and time details will be sent out by email. If you don't receive our email announcements, please contact Amy (below) to get on our list.

Friday, September 21st: Stella-Jones Pole Mill Tour. Yamhill and Washington County Small Woodlands Associations are organizing this tour of the pole mill in Sheridan. Focus will be on the log yard, grading, peeling, and treating poles. Tour begins at 10:00 at the mill office, 22125 Rock Creek Rd, Sheridan. Carpooling from McMinnville is encouraged: meet at 9:15 at Wortman Park (across the street from the OSU Extension Office). Space is limited so you must register in advance. To register, please email washcosmallwoodlandsassoc@gmail.com or leave a message at 503-703-6573 by September 17.

SAVE THE DATE: **Women Owning Woodlands Retreat—October 19th-21st, Molalla**. More information to come.

Have a great summer!

Answer to Tree Trivia (page 9)

1. B (red alder); 2. C (Oregon ash); 3. A (bitter cherry)

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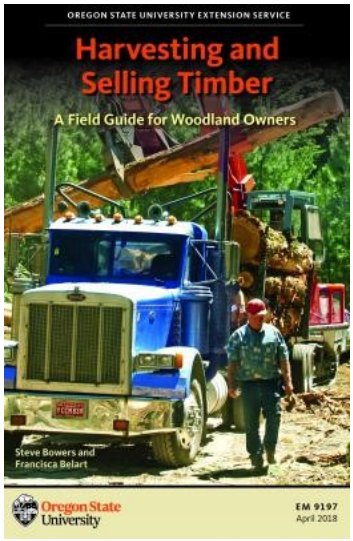
Blog: http://blogs.oregonstate.edu/treetopics

NEW PUBLICATIONS FOR YOU

The OSU Forestry Extension team has been busy writing. Check out these new and revised publications! All are available free of charge unless otherwise noted.

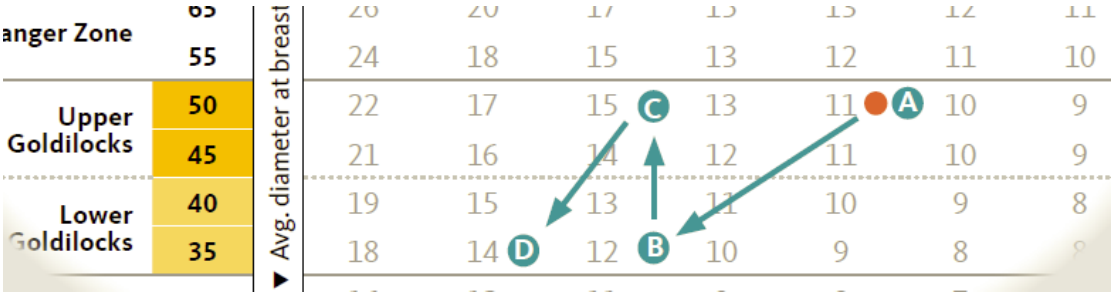


Harvesting and Selling Timber: A Field Guide for Woodland Owners

This 100-page book provides a step-by-step overview of harvesting and selling timber. The process is the same whether you are contracting the operation, relying on a private consultant, or personally performing the job. This book will help owners control the process, confidently deal with loggers and log buyers, make better decisions, and enjoy a greater return—from both an environmental and financial perspective—on their woodland property.
Cost: $11.00. Link: https://catalog.extension.oregonstate.edu/em9197

Competition and Density in Woodland Stands

Get the most out of your woodland with a thorough look at competition among trees and the density of your woodland stand. Learn to use the relative density scale and a stand density table specific to your tree species (such as the one below) to determine the best time to thin your trees to achieve your desired results. Download at: https://catalog.extension.oregonstate.edu/em9206



Choosing the Right Tree Planting Contractor for Your Family Forest

Replanting after a timber harvest? Tree planting is expensive, you want to choose the right tree planting contractor from the start. Learn what questions to ask potential contractors. Download it at: https://catalog.extension.oregonstate.edu/em9201.

Two-Aged to Multi-Aged Stand Management in the Coast Range

This publication is part of the Alternative Forest Management series. It describes a case study on a shelterwood harvest and using active management to create a multi-aged stand in the Oregon Coast Range. The landowners featured in this case study desire to create forests that are both ecologically complex and economically viable. Download it at: https://catalog.extension.oregonstate.edu/em9082

Fire FAQ's

These short fact sheets are intended to educate the public about various issues associated with wildfire. Each addresses a specific question and looks at what scientific research tells us. Five titles are available:

- Have the size and severity of forest wildfires increased in Oregon and throughout the west?
- Air quality impacts from prescribed fire and wildfire: how do they compare?
- Salvage cutting: what are the effects on fire behavior and severity?
- How can landscapes with mixed ownerships be managed for fire effectively?
- Managing wildfire for resource benefit: what is it and how is it beneficial?

All of these Fire FAQ's can be found here: http://extensionweb.forestry.oregonstate.edu/fireprogram/firefaqs

Fire Season is Here

By Brad Withrow-Robinson, OSU Forestry & Natural Resources Extension

Adapted from TreeTopics blog, http://blogs.oregonstate.edu/treetopics, June 15, 2018

Fire Season is in effect in the Tree Topics reading area, as declared by the State Forester according to regional fire conditions (usually by early July). Here are some fire season basics to keep in mind:

To find out when an area is declared, you can visit the ODF Wildfire website and click on Forest Restrictions and Closures section. There you can find links to an overview of the Industrial Fire Precaution Level (IFPL), closures and other information about fire regulations and restrictions.

If you choose the Current IFPL/Public Use (Regulated Closure) Chart you can find the fire level precaution for each of the ODF Forest Protection Districts by clicking on that district. Changes in precaution level and closures will be posted there over the summer, so it is a good idea to monitor this information throughout the season.

Please remember that even a Level 1 precaution requires you to carry fire equipment when in the woods. The motor vehicle or light truck (<=26,000 pounds GVW) requirements are:

A) 1 shovel with a minimum 8-inch wide face and a minimum 26-inch length handle, ready for immediate use.

B) 1 axe or Pulaski with a minimum 26-inch length handle, ready for immediate use.

C) 1 approved A,B,C extinguisher, 2.5 pounds or larger (preferably 5 pound minimum), ready for immediate use.

D) Exhaust system with muffler in good operating condition.

Be sure you, your family or others using vehicles on your property are aware of this. I generally make it a habit to carry these tools in my vehicle all summer.

Photo: ODF

Additionally, if you are using a chainsaw, each saw must have a shovel (meeting above standards), ready for immediate use; an 8-ounce (larger preferred) fire extinguisher, ready for immediate use; the standard exhaust system (spark arrester screen) must be in good operating condition; and the operator must stop the saw before fueling and move the saw at least 20 feet from fueling location prior to starting.

These regulations apply to any lands inside one of ODF's Fire Protection Districts. If you are located closer to populated areas, you may be in a local fire district instead, and subject to local regulations. Even in these cases, it is a good idea to adhere to these general principles anyhow.

Please be FireWise, alert, aware, and pro-active in fire prevention. Be aware of how and where you park your vehicle, since exhaust system components have been known to ignite dry grass. We've had a number of reminders recently that western Oregon is primed for wildfire each summer. You don't want to be part of the next one.

Another Rough Year for Willamette Valley Trees

By Brad Withrow-Robinson, OSU Forestry & Natural Resources Extension

Adapted from TreeTopics blog, http://blogs.oregonstate.edu/treetopics, June 13, 2018

It is hard to miss all the dead and dying trees in the area. I have been getting dozens of calls about them. So what is going on, and what is to blame? It seems time to revisit this sylvan whodunit: What is killing all these Willamette Valley trees?

Who is involved? Douglas-fir is by far the most frequent casualty, along with other conifers such as grand fir and some ponderosa pine. But trees of many sorts are being affected – hardwoods as well as conifers, both native and non-native. Many of the usual suspects – different beetles and fungi — can be found at the scene too.

What is happening? Symptoms often include dying branches and dead tops, low growth and vigor, sparse crowns, what we have called the "Willamette Valley crud". It is now often progressing to the death of the tree. This may be happening to individual trees or groups of trees. The younger trees are usually the first involved at a site, eventually joined by older trees.

Drought damaged trees are a common sight in the Willamette Valley.

Where is it happening? This is certainly a Valley-wide phenomenon. But within the Valley, we are seeing the most significant damage in certain situations more than others. Sites with seasonally wet, poorly drained soils, or sites with rocky or shallow soils, exposed south facing aspects tend to be most hard-hit. These are places that we think of as marginal sites for most conifer trees. Our conifers are well adapted to the area, but not every site.

When did this begin? This is an on-going event that began with a vengeance in the spring of 2013.

Why is it happening? Despite the many insect and disease suspects who can often be found at the scene, our investigation clearly indicates the real culprit is the weather. The first calls started in late summer 2012. It was a particularly warm summer with no rain until mid-October, which put trees, especially those on marginal sites, under stress. I think this was the triggering event, even though many symptoms were not expressed until the following spring.

With that stress came the usual suspects – bark beetles, twig weevils, stem cankers – that caused many of the symptoms described above (dead side branches and tops). But the true culprit in this mystery drama is the string of unusually long and warm summers we have experienced many of the past five summers. The fungi and insects are coconspirators that are able to take advantage of the situation. They may take the blame, but they generally are not the real cause of the problem.

Now What?

We seem poised for another stressful summer. May 2018 has turned out to be one of the driest on record, and we are unlikely to catch up in June. Long term forecasts are for another warm dry summer. We will just have to wait and see how it unfolds. But whatever happens this summer, I think we can expect to continue to see more sick, dying and dead trees. There are several reasons for this.

First, many trees are already stressed or injured by the past hot drought events and are in a vulnerable condition. While not yet lost, this stress makes them less resistant and more susceptible to the insects and diseases that are lurking about. A mild summer, or several mild summers would help. But even then they will not recover immediately. Their earlier stress and injuries also hamper their ability to recover and rebuild their resistance, even under good conditions.

An analogy might be of me falling off a ladder. The injuries I suffered when I hit the ground continued to affect my health and recovery long after I stopped falling (it is harder to exercise with a broken leg). It will take a while to recover, even if I stay out of trouble. It will take longer (or could kill me) if I keep falling off the ladder. For the trees, each of these summers is like another fall from my ladder.

Second, some trees are already lost. It may not be obvious, and they may still have needles, but they have been mortally wounded or have already been attacked by insects and will not recover, however our summer turns out. It is just a matter of time before those losses become apparent.

Looking ahead

In the long run, I anticipate that there will be a sorting out of trees by species and by site. Harsh, marginal sites will likely continue to lose Douglas-fir in this drought cycle, with the flat headed fir borer often involved. *(continued on page 5)*

Another Rough Year for Willamette Valley Trees (continued)

Grand fir will likewise have a hard time on marginal sites. Unfortunately, most of the low elevation Valley foothills now seems to be marginal for grand fir which is being lost across our region to the fir engraver beetle, another coconspirator commonly associated with drought episodes. Woodpeckers often work on these trees, stripping the bark in their search for the beetle larvae.

Grand fir stripped by woodpeckers searching for beetle larvae.

So we can probably expect to continue to lose some trees from some areas, but not all trees from all areas of the Valley. While this is an uncommon event, it is probably not unprecedented. Looking around, we see lots of old trees that show signs of past drought stress, like missing branches and flat tops. Lots of tress will survive, even in less than ideal sites. You may notice that Oregon white oak is often thriving in areas where conifers are struggling. It makes sense to maintain any drought adapted trees you have such as oak, madrone, ponderosa pine and incense-cedar.

What can be done?

Many of the calls I get are not just asking what is wrong, but what can be done about it. People are interested in saving a sick tree, or concerned about some mysterious fungus or insect spreading to other trees.

Unfortunately, there is generally not much to do but wait. This is a landscape-wide event driven by a multi-year weather pattern interacting with the local geology and ecology. Yes, a little grief counselling is sometimes involved in these calls. People get attached to their trees, and it is hard to hear that there are forces beyond our control that are causing them to die.

People often ask if they need to cut and harvest, or burn the infected trees to prevent whatever is killing their trees from spreading. Such sanitation actions can be helpful, but are often difficult to do effectively, especially in times of drought. If trees are downed in a major windstorm, we know when the trees fell, when they would be attacked and so, a date by which the sanitation activity must be completed to prevent another generation of beetles from emerging. But in a drought stress situation, there is a gradual wave of attacks. It is difficult to know when an individual tree was attacked and so, the time by which tree should be removed to effectively prevent beetle propagation. Once the tree is dead, the beetles have long since left, so it is too late to stop the beetles there. Sickly trees are vexing since symptoms may not show up until it is nearly too late for action, making sanitation difficult.

Sanitation may also not be as effective as hope for. The world is generally full of beetles lurking around. If a tree becomes so stressed to be vulnerable to beetles, they are there to find it. Leaving one more beetle-killed tree will not generally condemn its neighbors to an attack.

The Oregon Department of Forestry has **an excellent series of fact sheets and videos** on insects, disease, pheromone repellants, drought and slash management. I'd encourage you to visit the site to investigate your situation more.

ODF Forest Health Resources

Recently the ODF Forest Health team has added additional educational resource products that can be found on their website. These resources include: fact sheets, training videos, and links to Oregon Forest Pest Detector trainings, Invasive Species Online Hotline for reporting, aerial survey data and reports and contact information for each specialist.

http://tinyurl.com/odf-foresthealth

SHOULD I WATER MY SEEDLINGS?

By Amy Grotta, OSU Forestry & Natural Resources Extension

Adapted from TreeTopics blog, http://blogs.oregonstate.edu/treetopics, July 12, 2018

Often around this time of year, I'll get a question from a small woodland owner asking whether it's worth the trouble to try to water their newly planted tree seedlings. My standard reply has always been "No". Of course, in most cases, it's not even a practical consideration, because the logistical challenges of delivering water to hundreds, if not thousands of seedlings on steep or rough terrain far from any water source far outweigh any potential benefits. I also point out that our Douglas-fir trees are adapted to withstand dry summers. After all, millions of Douglas-fir trees are planted each year in Oregon, and most of them make it without any supplemental water. And, I know one or two woodland owners who have watered trees that they were concerned about, only to have them die anyway.

Don't water the weeds!

But this year, after fielding the question of watering young trees again, I started to think a little more about my standard answer. After all, all signs are pointing another drought year. Scientists predict that summers in the Pacific Northwest are only going to get hotter and drier in the future. In light of these factors it doesn't seem like an unreasonable question.

So, suppose you planted a reasonably small number of trees, and they are easily accessible (on flattish ground, near a road), and you have some method of getting water to the site (a water tank, a hose, etc.) These conditions could make watering feasible, so for the woodland owner who wants to give their baby trees the best start in life, or who just has a micromanager personality type, is it worth the time and effort?

I decided to try a small, highly non-scientific experiment to help shed light on this question, so I went out to a nearby clearcut that had been replanted last year. I brought a soil probe, a jug of water, and a couple of quart-sized containers (i.e. yogurt tubs). My intention was to see how different methods of watering affected the soil moisture profile.

The first thing to note are the weedy annuals surrounding the seedlings, a common condition two summers after planting. Watering in these conditions would defeat the purpose, as you would be watering the weeds too.

I took a soil sample with my probe in a bare spot near a seedling. I was able to get down about six inches. The first two to three inches were dry, but below that the soil was cool and moist. So by early July, the soil still had good moisture for the seedlings' fine roots to access. A month from now, it may be a different story.

(continued on page 7)

Right: The soil core from unwatered soil, showing that the bottom few inches were still moist in July.

Should I water my seedlings? (continued)

Then I set out my two yogurt tubs in different bare spots, but in one, I punched a small hole in the bottom to allow the quart of water to seep out gradually. In the other, I just poured the water directly onto the ground. I thought that maybe delivering the water slowly would allow it to penetrate more deeply, whereas pouring the water might cause it to run off. I know this happens when I water my yard, and for landscape trees, it's always recommended to water slowly, deeply and infrequently.

Two hours later, I probed the soil in the two watered locations. As expected, the entire soil profile that I was able to collect was moist. In the slow-watered spot, I brought up eight inches of evenly moistened soil. In the fast-watered spot, I could only get down about four inches, but there turned out to be a lot of buried bark in that spot, so that limited the probe. So I can't really compare the difference between the two. Dang, I should have done a few more repetitions!

I'll go back to my earlier point that Douglas-fir trees are adapted to dry summers. They produce fine roots mostly in the upper 8 inches of mineral soil, and any organic material on the soil surface acts as a sort of buffer or mulch. As the upper inches of soil dry out in the summer, I sort of wonder whether replenishing their moisture is beneficial to a new seedling or not. Perhaps that encourages more fine roots to persist in those upper few inches of soil, rather than developing more deeply where moisture remains longer into the season. Could that cause problems when you stop nurturing them? Take a look at the root profiles (right) of some three-year-old trees that were part of an experiment. From the left, the first and third trees received supplemental irrigation while the second and fourth did not. Note the differences in where the roots are!

Source: Chan et al. 2002. Effects of contrasting light and soil moisture availability on the growth and biomass allocation of Douglas-fir and red alder. Can. J. For. Res. 33(1): 106–117.

Anyways, here is what I took away from this small investigation, for you to consider if you are thinking of watering your seedlings.

I stand my by earlier statement: No, watering probably isn't worth the time and effort. But for those who aren't totally convinced, or don't have enough to keep them busy on their tree farm, I would say, you should only water IF you can answer NO to all of the following conditions.

- *Are there weeds in the rooting zone of your seedlings?* (If the answer is yes, you risk giving the weeds even more of a competitive edge by watering.)
- *Is the soil moist 4-8 inches below the soil surface?* You'll need to dig some holes to find out, and you might be surprised.
- *When you test out your proposed watering method (which you should), does the water run off before reaching the root zone of the seedling (roughly the top 8 inches of mineral soil)?* You should try delivering water slowly and quickly and see what happens in your particular soil. The soil type where I tried this is a silty loam with moderate drainage according to the Web Soil Survey. If you have more clay in your soil, it may act quite differently.
- *Were the trees planted more than two growing seasons ago?* Any older than that, and their root systems are probably too large, and require too much water, for you to feasibly deliver.

Will we need to take measures to improve seedling survival in the hot, dry summers of the future? I think yes, but I don't think supplemental water is the answer. We might go back to the practice of taking advantage of suitable "microclimates" when planting, such as planting seedlings on the north side of a stumps or downed logs. This is feasible at any scale and topography. In the long term, tree breeding programs will probably select for increased drought tolerance in seedlings.

Black Stain Root Disease

By Brad Withrow-Robinson and Amy Grotta, OSU Forestry & Natural Resources Extension

Adapted from TreeTopics blog, http://blogs.oregonstate.edu/treetopics, June 7, 2018

We recently attended a field tour on Black Stain Root Disease in the Coast Range. The tour was organized by Dave Shaw and Klaus Puettmann (OSU Extension and College of Forestry) and was attended by private land managers, forest health specialists and researchers from state and federal agencies.

Black stain root disease (BSRD) is a native root disease affecting several species across the West, but attacks mainly Douglas-fir in western Oregon. Foresters are aware of several "hot spots" where the disease has been particularly active in recent years, and there is concern that it might be expanding.

BSRD causes a gradual or rapid decline and crown discoloration of infected trees. Older trees generally do not quickly succumb to the disease. It forms disease centers that gradually spread, much like the symptoms of other root diseases like laminated root rot.

But BSRD is most visible and important in young trees, especially precommercially thinned plantations. Young trees often show an abrupt change in condition from healthy vigorous trees one year, to stunted and yellowing trees the next year. A characteristic of BSRD. The disease is named for the black or dark purple staining of the sapwood. It can be by hacking into the stem (something all pathologists love to do) or in cross section.

BSRD has two means of spreading. This includes root to root contact, as with many other root diseases. But black stain can also be moved by several pests that are attracted to stressed or damaged trees, such as insects and forest pathologists. Insect vectors seem to be how it moves from an existing disease center to create new infections. This creates the potential to spread, and to be affected by management activities that damage or stress trees. This includes road building, "brushing" roads (mechanically clearing road edges) and young stand thinning. Young stand thinning is seen as the management activity with the greatest potential to increase this disease. This is because the insect vectors (weevils and a root bark beetle) are attracted to cut stumps. The insects infect the stump, and the fungus can then spread to neighboring trees through root contact and grafts. Activities causing soil disturbance and root damage are also likely to invite spread.

Take Home Message

Our sense at the end of this tour was that BSRD is not something for most family forest landowners in NW Oregon to be very concerned about. It is out there, but not in high concentrations in most areas. The general consensus of the group was that the recent rise in the visibility of BSRD is mostly due to the gradually shifting pattern of age classes on the landscape that is making the disease more evident, and not a significant expansion of its range or activity. It is and is likely to remain a much less-significant disease in our area than laminated root rot. That said, those who are in an area with a significant amount of BSRD do need to pay attention when harvesting and establishing new plantations. You can find out more about BSRD at these links:

https://www.forestpests.org/acrobat/bsrd.pdf

https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5187236.pdf

Black stains may be found by cutting into sapwood with an axe.

Tree on left shows abrupt change in growth and color typical of BSRD.

Forest pathologist trying to discern how far up the trunk BSRD is visible.

The symptomatic black stains are irregularly distributed in the sapwood, as seen in this stump.

READ, LISTEN, LEARN, ENJOY, SHARE

It's true: sometimes you do find good stuff on the Internet. Here are some things for you to enjoy, "like", and share with friends.

Take a walk in the woods with a small woodland owner. Hear about the wildlife, trees, and dreams of these people and their woodlands. Woodland Stories is an audio tour of the forest from the perspective of people like you. Three short podcasts produced by OSU Forestry & Natural Resources Extension tell their stories.

Have five minutes? Have a listen!

http://blogs.oregonstate.edu/woodlandstories/

Have you ever felt frustrated trying some technique or piece of equipment for the first time on your woodland? Then you'll relate to "Adventures in Hack-and-Squirt: True Confessions of an Occasional Herbicider" written by Barb Lachenbruch. She's a retired OSU Forestry professor who now spends much of her time writing and managing the 80-acre woodland she owns with her husband. Read her account of her first stab at hack-and-squirting on her blog:

https://barbaralachenbruch.com/2018/03/29/adventures-in-hack-and-squirt-true-confessions-of-an-occasional-herbicider/

TREE TRIVIA

Can you match the photos below with the botanical terms on the right?

Answers on page 1. For extra credit, name the native Oregon tree in each photo.

1 (flower spike)

2 (winged seeds)

3 (stem pore)

A. Lenticel

B. Catkin

C. Samara

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