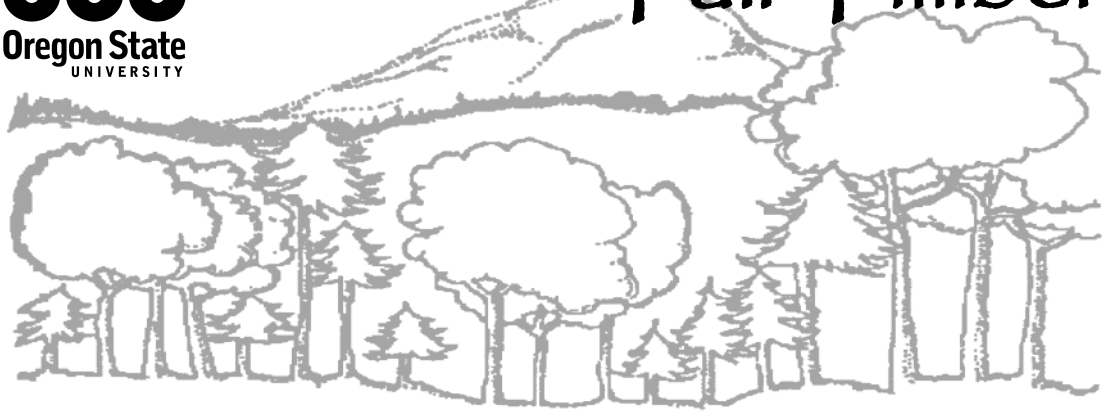
Tall Timber Topics



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

Fall 2015

Cooler weather has returned, but drought conditions persist. Last month I was on a panel to talk about how the drought of the last year or so has impacted the forestry sector. In preparing my remarks, I contacted a number of forest managers to gain their perspectives. Below is a mix of their observations and thoughts along with my own.

Fire. It's no secret we've had another big year for fires. According to ODF, 93,000+ acres have burned to date on ODF protected lands this year. The 10-year average is only 28,000 acres. Even here on the west side, more acres have burned. Many factors influence the number of fires that start, but dry fuels make fires grow faster and become more difficult to control. Fuel moisture dropped to record low levels for much of this summer. And, Industrial Fire Precaution Levels (which limit forest operations during fire season) have been higher than typical, causing equipment limitations and shutdowns.

Forest health. Refer to the detailed article in this issue outlining forest health impacts we are seeing this year.

Seedling mortality. Several managers are reporting more dead seedlings or dead tops in areas planted in 2015. If you planted this winter, especially on west or south slopes, it would be a good idea to get out and survey.

Looking ahead, forecasters expect the drought to persist through this winter. So what are some proactive measures that you can take to reduce the impacts?

- Do a good job controlling competing vegetation to reduce moisture stress around young seedlings.
- Dense young stands can be thinned out to reduce overall water demand. But to minimize fire risk, consider treating the fallen material by chipping, shredding, or removing from the site.
- Salvage beetle-attacked trees to reduce attacks in nearby trees next year.
- Don't fertilize trees in drought years. Fertilizer stimulates growth, increasing water demand.

On to upcoming programs. Are you planning to pass your land on to heirs? Have you considered how this will play out? Intergenerational land transfer can be a complicated, messy and sometimes emotional process. It's not too early to start thinking and talking about the issues involved with passing on your land. On **Saturday, December 5th** we will have a **Ties to the Land** succession planning workshop intended for family members of all generations. See the information and registration on page 4.

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

Upcoming Events

Women Owning Woodlands Workshop
Saturday, October 17th, 9:00 am - 5:00 pm, Hopkins Demonstration Forest, Oregon City
This workshop will provide networking and educational opportunities for women woodland owners. The program includes: Chainsaw maintenance (bring your personal saw!), planning for the future (how to prepare for potential sole ownership), a tree identification hike, and more! Space at the workshop is limited to 50 women. Cost: $15 covers snacks, lunch, workshop supplies, and a t-shirt. Contact: Tiffany Fegel, 971-409-4030.

Washington County Small Woodlands Association Meeting
Tuesday, October 27th, 7:00 pm, North Plains Fire Station (31370 NW Commercial St.)
A four-member panel of professional foresters and landowners will discuss best practices for pre-commercial thinning, harvesting, and managing invasives.

Yamhill County Small Woodlands Association Meeting
Wednesday, October 28th, 6:30 pm social/7:00 pm meeting, Yamhill County OSU Extension Auditorium (2050 NE Lafayette Ave., McMinnville)
There will be a discussion on wildfire preparedness with representatives from Oregon Department of Forestry.

Fish Habitat & Passage Workshops
Tuesday, October 27th, 8:00 am— 4:30 pm, Seaside Civic and Convention Center, Seaside
Thursday, October 29th, 8:00 am— 4:30 pm, Chemeketa–Eola Viticulture Center, Salem
The free workshops will highlight practices to restore and enhance fish habitat in forested streams. Registration deadline is October 18th. More information at: http://oregonforests.org/news/workshops-focus-fish-passage

Columbia County Small Woodlands Association Annual Meeting
November 7th, 5:30 pm, Quincy Grange
Don Kaczmarek, a geneticist from the Schroeder Seed Orchard, is the speaker. Contact Mark Dreyer for more information: mdreyer51@msn.com or 503-369-9592.

Yamhill County Small Woodlands Association Meeting
Wednesday, November 18th, 6:30 pm social/7:00 pm meeting, Yamhill County OSU Extension Auditorium (2050 NE Lafayette Ave., McMinnville)
There will be a program on earthquake preparedness– Are you ready for the big one?

Ties to the Land– Your Family Forest Heritage: Planning for an orderly transition
Saturday, December 5th, 10:00 am— 3:00 pm, Pacific University, Forest Grove
Succession planning workshop facilitated by Janean Creighton, OSU Forestry and Natural Resources Extension Specialist. Cost is $50 per family (up to 3 people). More information and registration form on page 4.

Basic Woodland Management Short Course 2016 - Save the Dates!
Tuesday evenings, Feb. 9th - Mar. 1st, 2016, McMinnville.
More details to come. Mark your calendar now if you would like to take our annual offering of this course.

Forestry in Scandinavia - 2016 Tour (May 27-June 14, 2016)
The Oregon Woodland Cooperative has organized a forestry tour to Scandinavia especially for family forestland owners, forestry professionals and forest products producers. Guided by experienced foresters, this educational tour will focus on private forestry in Sweden and Norway and the role of woodland owner cooperatives. Full details at http://www.oregonwoodlandcooperative.com/scandinavia-forestry-tour.

Summer 2015, DROUGHT! And Heat: A forest health report

By David Shaw, Forest Health Specialist, OSU Forestry & Natural Resources Extension

Adapted from TreeTopics, http://blogs.oregonstate.edu/treetopics, September 2, 2015

2015 is shaping up as a big year for drought and drought related forest health issues throughout Oregon, but especially in the Willamette Valley, SW Oregon, and in Eastern Oregon. In late summer, it can be very difficult to discern whether insects, disease, or drought and heat are causing tree dieback and deaths, but we are pretty confident that drought and heat together are influencing much of what we see. In this report I outline and describe some of the more common problems we are seeing with conifers and hardwoods as of early September.

In severe drought, trees may die with no associated biotic agents (such as bark beetles or canker diseases). However, it is very common to find dead trees with these agents too.

Douglas-fir

Douglas-fir in the oak zone of western Oregon (the drier area of the Valley and on heavy clay and shallow dry soils at lower elevations) is having an especially hard summer, with some sites outside the oak zone also showing drought effects. The general symptoms are top dieback, branch flagging, and whole tree mortality. These symptoms may or may not be directly related to a biotic organism. The major ones are branch cankers, bark beetles, and twig weevils. All these organisms seem to do well on Douglas-fir during drought, and this year is no exception. Twig weevils and branch canker diseases are very common on young Douglas-fir during drought, and both are known to increase attacks on drought stressed trees.

(Left) Douglas-fir branch flagging, likely from drought and canker interaction. (Right) Douglas-fir canker. Note the brown dead bark area and green live bark. Branch is flagging. *Whitney Schmike*

Douglas-fir twig weevil damage. *Whitney Schmike*

Bark beetles

Bark beetle attacks on conifers increase during drought. This is the case for Douglas-fir, grand fir and other true firs, as well as pine. In these conifers it often results in top dieback, but can also result in whole tree mortality. We do not have the results from this year's statewide survey yet, but it appears that bark beetle activity is going to be really up. However, symptoms of bark beetle attack vary with beetle type and drought effect. For example, typically when a Douglas-fir is attacked by Douglas-fir beetle in April or May, the tree crown does not go red for many months, perhaps not until late fall or even early the next spring. However, this year many trees that were attacked in the spring were turning red right away, by mid-summer. This may be because they were already dying from drought, and this may also be exacerbated by existing root diseases.

(continued on next page)

Group mortality of Douglas-fir in May. Douglas-fir beetle was found in all of these trees. *Kara Shaw*

DROUGHT! *(continued from previous page)*

Many declining Douglas-fir trees have an associated stress cone crop, a smaller than normal abundant cone crop that is hypothesized to be related to the last gasp of the tree to reproduce before death. For a stress cone crop to hang on a tree in early 2015, means they likely formed in 2014, indicating many of the trees with top-dieback this summer have been suffering for two years or more.

Douglas-fir with stress cone crop. These cones formed in the previous year, therefore indicating stress beginning in 2014 or earlier.

True fir/Grand fir

The fir engraver bark beetle attacks all true fir, but is especially important on grand fir and white fir during drought. We anticipate a lot of grand fir mortality this summer, but it will not become evident until fall, as the trees may take a few months before showing red foliage. Throughout the range of grand fir, the species has expanded its site occupancy with fire suppression, even in the Willamette Valley. During drought, many of these sites are not suitable for fir and mortality may become very common. Root diseases may also exacerbate the mortality.

Foliage loss in conifers

Many conifers lose foliage in a drought, theoretically as an adaptation to reduce water loss through leaves. Although this is poorly understood, this summer it is quite common to see conifers like Douglas-fir or ponderosa pine losing two-year-old foliage and older. There may be interactions with foliage fungi/diseases, but it is very difficult to differentiate what is happening during mid-summer.

Foliage browning in hardwoods

Foliage browning in hardwoods is becoming more and more common throughout the region as drought intensifies this summer. Partial tree crown and whole tree crown foliage browning is already present in big leaf maple, Oregon ash, and cottonwoods. We anticipate Oregon white oak will also begin showing symptoms within the next month. We believe this is an adaption to prevent whole tree mortality, a type of early season senescence, and next spring most these trees will flush and be healthy if rains return this winter.

Ties to the Land - Succession Planning Workshop
Saturday, December 5th, 10:00 am - 3:00 pm; Pacific University in Forest Grove

This workshop will focus on: maintaining family ties to the land from generation to generation; building awareness of the key challenges facing family businesses; and motivating families to address these challenges. This DVD-based, interactive workshop provides effective tools families can use to decide the future of their land and land-based businesses.

Course fee: ***$50.00/family*** *(up to three family members) includes lunch and one copy of the Ties to the Land workbook & DVD,. Additional family members may attend for $10 extra per person.* ***Facilitator*** *is Janean Creighton, OSU Forestry & Natural Resources Extension Specialist. Space is limited. To attend you must* ***pre-register*** *no later than* ***November 30th****. Make checks payable to OSU Extension Service. Mail in the form below to OSU Extension, 505 N. Columbia River Hwy, St. Helens 97051 or contact Vicki Krenz: (503) 397-3462, vicki.krenz@oregonstate.edu.*

Name(s) of all attending: _____

Mailing Address: _____

Phone: _____ Email: _____

Number attending: _____ Amount enclosed: _____

Ties to the Land Registration Form

Seedling Supply is an Emerging Issue for Woodland Owners

By Brad Withrow-Robinson, OSU Forestry & Natural Resources Extension (Benton, Linn, and Polk Counties)

Adapted from TreeTopics, http://blogs.oregonstate.edu/treetopics, September 21, 2015

Here is something you should know: Seedlings are in short supply for this winter's planting season, and the situation is unlikely to improve any time soon. So what is up? The seedling situation represents something of a perfect storm, with demand rising just as production is down. This is bad news for the folks who've noticed timber prices are up a bit and are thinking of a harvest sometime soon.

But that is part of the problem. We have seen an increase in demand for seedlings in response to an improved timber market which has upped the harvest and replanting activities. The Christmas tree market is also looking up. Then there is the whimsy of Nature. Extreme weather, such as the November 2014 freeze, have been causing significant nursery losses in some areas and for certain species (such as western redcedar right now). The drought and this summer's massive fires will create new and on-going demand for seedling production across the region. Demand unmet this year adds to the demand next year. Then add to that the news that some large corporate growers are saying they will not be selling to the public any more, and you can see why seedlings are hard to find.

On the production side of the equation, the crash in harvest during the recession led to a dramatic oversupply of seedling, leaving nurseries to absorb the loss. This caused several mid-sized nurseries to go out of business, shrinking current nursery capacity and causing reluctance of many nurseries to "seed an extra bed" to meet some unknown future need. Remember it takes a couple years to grow most seedlings, and nobody has a reliable crystal ball.

Family forest landowners typically get their seedlings from two pools: Seedlings grown on speculation of future need, and production over runs from contracts for large corporate landowners. Both of these pools have declined recently, and are likely to continue to decline.

What makes many people really nervous is that the situation is not likely to be resolved quickly, nor easily. There are many obstacles to a durable solution. These include reduced production capacity, dwindling reserves of harvested seed, increased production costs, low margins and (understandable) reluctance of nurseries to expose themselves to excessive risk. Remember, we are not talking about a single product, but about a very large suite of products: seedlings for over a dozen conifer tree species and many more hardwoods and shrubs, of several distinct stock types, for 10 distinct seed zones, many with multiple elevation bands. These myriad products all result from decisions and a production process triggered two years earlier. It looks like the perfect storm brewing. It is a wonder there are any seedlings available at all.

Brad Withrow-Robinson

So what is a person to do? Plan ahead. We say this all the time, but now we mean it. If you have waited for the rain to fall before making a call, you are likely out of luck this year. Seedlings from many species, stocktypes and seedzones have been sold out since June. But I said "likely", so get on the phone and call around at least and get on a waiting list. The seedlings have not been lifted and sorted, so supplies are still uncertain. You can get in line for any that show up beyond the current estimate, or if someone backs out of an order. You can find a list of area nurseries to call, along with an idea of what they typically produce by referring to the Oregon Department of Forestry's ***Sources of Native Forest Nursery Seedlings*** (available Fall 2015). Another valuable resource to help you locate seedlings is ***The Forest Seedling Network.***

Going forward, plan to order far ahead, before the sawdust flies. Growing seedlings on contract likely takes a larger order and bigger commitment than many family forest landowners want to take on, but getting in line at the start of the production cycle might boost supply as well as secure your piece of it. Expect to see the cost of trees expand as nurseries adopt methods to get the most out of each pound of seed, from each square yard of bed of square foot of bench.

Finally, communicate with and support the efforts of landowner groups such as OSWA or Tree Farm, the Committee for Family Forestry and the Oregon Department of Forestry which are looking for solutions to the problem.

Risk Management: A way of framing woodland management decisions

By Amy Grotta, OSU Forestry & Natural Resources Extension (Columbia, Washington, and Yamhill Counties)

Adapted from Oregon Forests and Climate Change Blog, http://blogs.oregonstate.edu/orforestscc/, September 29, 2015

Risk management – it sounds like a bureaucratic job title. Nonetheless, risk management factors into countless decisions that woodland owners make. Whether you call it hedging your bets, keeping your options open, or not putting all your eggs in one basket, these are all ways of saying that you are managing risk.

Risk management involves weighing the potential positive and negative consequences of a proposed action against the consequences if no action is taken. People apply these principles to all kinds of everyday situations. For example, when choosing a homeowner's insurance policy, you consider the likelihood of various circumstances to occur. If you live in or near a floodplain, you may purchase flood insurance, even if it's highly uncertain whether there will be a flood. Now, consider how the situation would differ if you lived on a ridgetop. Would you be as likely to purchase flood insurance?

In this example, flooding is the risk, and the magnitude of the risk depends on the location of the house (floodplain or ridgetop). Some risks you probably already consider in managing your forest include seedling survival, insect outbreaks, storm damage, fire, and changes in market conditions. But climate change might impact the magnitude of these risks.

It often takes a catastrophic event for people to think about risk and respond to it. For example, ten years since Hurricane Katrina devastated the forest industry in Mississippi, tree farmers have adapted. Shifting plantations to species that are more wind-resilient, shortening rotations, and developing markets for storm-damaged trees are all tangible strategies that have been implemented there to reduce the risk from future extreme storm events. Climate projections indicate the frequency of strong storms in the southeast U.S. will rise.

Not all climate change risks will come in the form of catastrophic events, and managing for them might be more subtle than in the previous example. Applying climate change risk management to your own forest could look like this:

1. Consider a potential effect that climate change may have in your region.
2. Consider how that effect might impact forest growth and function and/or your infrastructure.
3. Determine what, if anything, you can do to mitigate these impacts.
4. Decide on a course of action based on the possible positive and negative consequences of action vs. no action.

Here are some hypothetical examples.

Hotter summers, more fire danger…can I do anything about it? Let's say you are a woodland owner in the Willamette Valley, who logs infrequently and in the summertime. Fire has always been part of Oregon forests even on the west side, but climate scientists suggest that we will experience more and larger fires due to hotter and drier summers. So while on the west side we are accustomed to thinking about fire mostly as a hypothetical; in the future there might be more specific and greater fire-related risks to consider; for example:

1. The risk of a fire quickly escaping if it starts;
2. The risk to your home and forest if firefighters are working elsewhere or cannot easily access your property;
3. The risk that forest operations on your property will be limited or shut down more frequently due to fire danger.

Willamina creek fire, August 2015. ***Jen Warren, ODF***

There are ways to manage these risks, but as we move down the list above, the strategies become more complex or costly. Being vigilant about carrying fire tools during fire season, checking vehicle exhaust systems, and not smoking in the woods are easy and inexpensive ways to prevent a fire start in the first place. The second risk takes more effort to manage, involving creating defensible space, fire breaks, and access for fire trucks. The third might mean that you need to have more flexibility in the timing of logging, hauling and other projects. A logging job that was intended for the summer might extend later into the fall, meaning wet roads to contend with. Minimizing that risk could mean costly road improvements. The lesson here is that not all risks can be eliminated. Risk management means weighing the options and deciding on an acceptable level of risk. *(continued next page)*

Risk Management *(continued from previous page)*

Fewer showers, more downpours…what about my roads?

Let's say your forest road descends into a hollow where it crosses a small stream. Climate models say that while total annual rainfall will continue to fluctuate widely, we might see an uptick in the frequency and magnitude of extreme or heavy rain events. The effect might be that your road experiences more erosion pressure – more water moving across the road, in ditches, and under the road at cross drains and the stream crossing. Culverts on forest roads are designed to accommodate peak storm flows, but it is possible that the heaviest storms of the future will be more than your current culvert can handle, and could result in a road washout, soil erosion, stream sedimentation and degraded aquatic habitat. However, replacing a culvert is costly.

You might consider the following questions when determining a future course of action:

- What is the capacity of your existing culvert? Has it come close to overflowing in the past?
- If it was not replaced and it failed in a heavy storm, what would be the ecologic and economic consequences? How dependent are you on the road for access?
- What would be the cost of replacing the culvert with a larger one?
- Which of the two above scenarios would be more costly and have a greater impact on access and use of the property?

The bottom line is that forest managers have always tolerated risk, because forces of nature, market conditions, and other factors are beyond their control. Climate change may exacerbate some risks and negate others. Look for future articles that will delve into strategies that can be employed to reduce risks to managed forests in light of climate change.

The Return of the Asian Gypsy Moth

By Brandy Saffell, Education Program Assistant, OSU Forestry & Natural Resources Extension

The Oregon Department of Agriculture (ODA) reports that two Asian gypsy moths (AGM) were found in traps near Portland this summer. You may be familiar with its cousin, the European gypsy moth (the smaller moth on the right), which became established in the eastern U.S. over a century ago and has become a major defoliating pest there. But the European species does not fly very far and past introductions to Oregon have been fairly easy to control.

Asian gypsy moth (left) and European gypsy moth (right). ***USDA-APHIS PPQ***

AGM is potentially a much more dangerous defoliator then the European gypsy moth. While the European strain feeds on about 300 species of trees and shrubs, AGM is known to feed on more than 500 species, including conifers. Moreover, the female AGM has the ability to fly and could potentially spread more rapidly than the European gypsy moth. "This is an exceptionally destructive insect that would change the health of our forests, making them far more vulnerable to other invasive plant issues," says Clint Burfitt of ODA. Native forest ecosystems, production forests, and Christmas tree farms would all be vulnerable should AGM become established.

AGMs arrive in the US on ships from Asia, particularly Russia. They attach their egg masses to the ship or cargo and are released when they arrive in US ports. ODA manages a trapping program each summer to detect gypsy moths. Just three AGMs have been found in Oregon traps before this year: in North Portland (1991), Forest Park (2000) and St. Helens (2006). The two detections this year were again in Forest Park and North Portland.

Past areas where AGM was detected were treated with an aerial bacterial insecticide (BTk) to control any emerging caterpillars. The treatments were considered effective. ODA is currently formulating a response plan to the new detections. Eradication projects may be proposed for North Portland in spring 2016. More details about the proposed treatments will be released over the next several months.

Pruning Season is Now Open

By Brad Withrow-Robinson, OSU Forestry & Natural Resources Extension (Benton, Linn, and Polk Counties)

Adapted from TreeTopics, http://blogs.oregonstate.edu/treetopics, September 18, 2015

For those so inclined, pruning season is now open. There are many reasons people pick up a saw or loppers to prune up their trees in young stands. The most common motivations I hear are accessibility, aesthetics and fire resistance/ prevention. Even pruning up just a single- eight foot "lift" can serve any or all of those objectives.

People want to be able to walk freely around the place without fighting through dense brush the whole way. So many prune to open trails or corridors. This allows them to get to favorite spots more easily, or just get around and see how things are doing. It lets them enjoy the property more (daily walks or bird watching) and also to more easily take care of tasks like spot spraying invasive weeds. Pruning a whole block of trees improves not just access but opens up the line of sight. It quickly changes the look and feel of a young stand and gives the stand an open aesthetic that many people like.

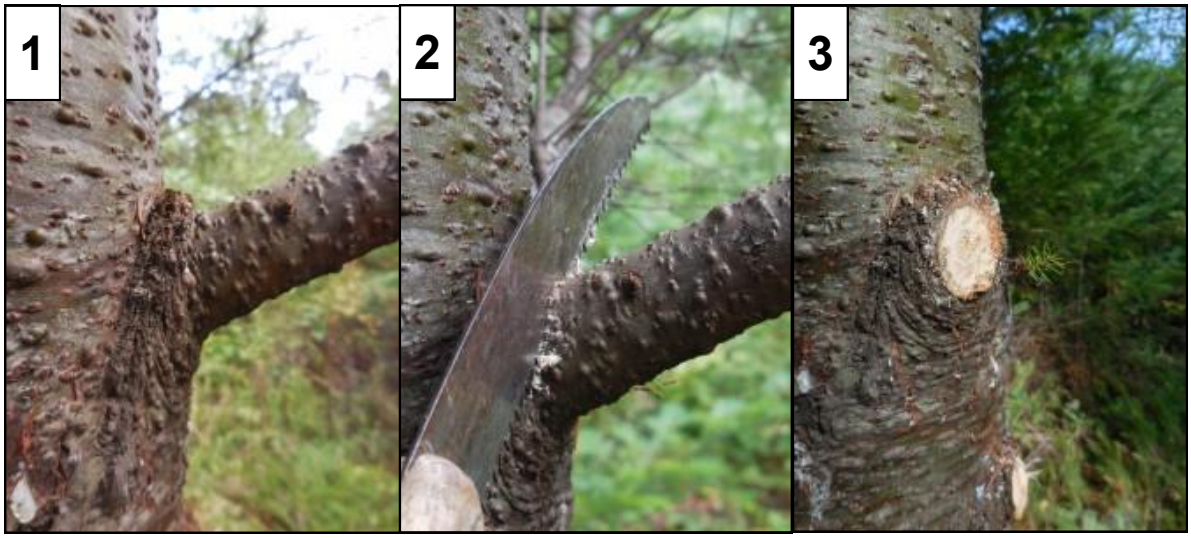
Some people prune up a young stand to increase its fire resistance by getting flammable branches up off the ground. This may be a particularly strong motivation if their property borders a public road, in which case it might make sense to also pull back the pruning slash a few rows in to help keep the ground bare.

There are also some people who are inspired by the thought of their trees producing clear, knot-free wood in the years to come. That objective requires a series of lifts to a short log length (20ft) on selected trees, but deserves a separate article.

Pruning does take some time and exertion, but is pretty straight forward if you follow a few simple rules:

- If pruning into the live crown, you should get it done from the late fall to late winter, rather than summer, as I cautioned last summer. The bark is now tight and insect pests such as the sequoia pitch moth are less likely to be attracted to wounds made in the winter. Pruning dead branches is ok any time.
- Prune close, but not flush with the trunk. [See photos below]. This prevents injury to both the bole of the tree and the branch collar. The collar is the raised area at the base of the branch. Leaving the collar allows the tree to heal over the pruning wound more quickly. It is better to leave a stub than cause injury to collar or bole. Something to keep inmind if using power tools.
- When pruning young trees, be careful not to be too enthusiastic. The rule of thumb is to leave at least half the tree's total height in live crown.
- Be mindful of potential sun scald. Factors increasing damage risk include: edge trees with SW exposure, drought conditions, pruning in late summer before the rains, leaving the minimum live crown ratio.

So you pruning enthusiasts, get out there and get some exercise while feeling good about the gym membership fee you are not paying. Enjoy!



(1) Note the collar at the base of the branch. (2) Cut just outside the collar. (3) Leave a minimal wound and undamaged collar tissue to rapidly close the wound. ***Brad Withrow-Robinson***

Knapweed

By Amy Grotta, OSU Forestry & Natural Resources Extension (Columbia, Washington, and Yamhill Counties)

Adapted from TreeTopics, http://blogs.oregonstate.edu/treetopics, August 21, 2015

Like just about any small woodland, the Matteson Demonstration Forest has its share of invasive weeds. Besides familiar and ubiquitous foes such as Scotch broom and thistles, one of particular concern is knapweed. With purple flowers emerging from roundish bases at the top of a tall stalk, knapweeds superficially resemble a sort of spineless thistle, and in fact they are relatives of thistles, botanically speaking. They are biennial (2-year life cycle) to perennial plants and reproduce by seed. Fairly inconspicuous in the winter and spring; at this time of year, their purple flowers betray their location on and along roadbeds and other disturbed areas.

There are several species of knapweeds (*Centaurea spp.*) in Oregon, and all are classified as noxious weeds. Meadow knapweed, actually a hybrid of two other species, seems to be the most prevalent in the Willamette Valley. Spotted knapweed is more of a problem on the eastside though has been documented on the westside too. These two species can be tricky to tell apart, but we think we have meadow knapweed at Matteson, based on its wider distribution on the westside, the shape of the foliage and the color of the bracts (the tiny scale-like leaves at the base of the flowers).

So why are knapweeds a problem in forestlands? The biggest concern is their impact to native plant communities. They are tough competitors that can crowd out other desirable herbaceous plants, posing particular challenges to pasture or grassland managers, or those trying to restore meadows or oak savannahs. Even for those that do not have those particular objectives for their property, knapweeds are "road runners" in that they are easily spread by foot and vehicle traffic along roads and trails. So if you find that you have a knapweed infestation on your property, you can do surrounding property owners a favor by keeping it in check.

On the Matteson tract, knapweed is largely confined to gravel roads and open areas along the roads. Our main concern is limiting the spread of the weed, not only on this property but also to other College Forests and to other properties. For that reason, we are trying to keep OSU College Forest vehicles off the property as much as possible, so that tires and vehicle undersides do not pick up the seeds. Multi-year herbicide treatments will also likely be necessary to reduce knapweed on the property; although because the weed is also prevalent along the county road ringing Hagg Lake, we may be fighting an uphill battle. We will be regularly surveying where our access roads join up with county roads and neighbors to contain and prevent its spread.

New Publications and Resources

Wildlife in Managed Forests: Early Seral Associated Songbirds
Published by Oregon Forest Resources Institute. Download free at:
http://oregonforests.org/sites/default/files/publications/pdf/OFRI_WIMF_Songbirds_web.pdf. Or call OFRI for a free copy: 971-673-2944

NEW OSU Extension Small Job Contractor List Available for Columbia, Washington, and Yamhill Counties

This updated list of contractors (consulting foresters, loggers, trappers, road builders, and other forestry professionals) is now available online at:

http://extension.oregonstate.edu/columbia/sites/default/files/small_job_contractor_list_july_7_2015.pdf

If you would like to add your business to this list, please contact Brandy Saffell.

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