



Tall Timber Topics



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

Summer 2016

Last week there was a fire in my neighbors' house while they weren't home. Fortunately another neighbor smelled smoke and called 911, but even in the short time before the fire department arrived there was substantial damage to the house. It could have been much worse. While not a wildfire, this experience was a reminder of how with fire, things can get serious very quickly. The relatively cool weather we've had lately can cause us to let our guard down, but we all need to be careful and vigilant in and around the woods. A small (3-acre) wildfire on the [OSU MacDonald-Dunn Forest](#) a couple of weeks ago was human-caused, likely by a recreational user of the forest. Again, it could have been much worse had the fire not been quickly spotted and reported, and had the weather been different.

With this in mind, I encourage you to explore a recently redesigned website, from Keep Oregon Green Association Inc. The site serves as a hub of information for preventing human-caused wildfires. The site features facts and tips for recreational users, homeowners and logging and farm workers to reduce the most common sources of wildfire ignition. If you have questions about fire precautions, burning regulations, and fire facts, you'll find this site useful. Check it out at <http://keeporegongreen.org/>.

Non-woodland owners flock to local public lands such as the MacDonald-Dunn Forest, Forest Park, or state forests to recreate and enjoy nature. Like many, I find that spending time in the woods—whether doing my job or simply taking a walk—brings peace and clarity of mind when life is stressful. This was brought home earlier this year, when surgery kept me off my feet for a good while. It was a great day when I was able to take my first short hike and simply take in the sights, sounds and smells of all that was around me in the woods, like old familiar friends.

As a small woodland owner you are fortunate that your land provides you with a unique recreational resource right outside your front door. Regardless of how you approach the management of your land—as a timber resource, a big backyard, or somewhere in between; it will only enhance the value of your land to identify some special recreational sites such as trails, viewpoints or simply places to sit, and use them. Take a few moments this season from the work you do on your tree farm to look, listen and let stress melt away. Oh, and if you smell smoke...you know what to do.

Amy Grotta

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Upcoming Events



Yamhill Small Woodlands Association Annual Tree Farm Tour and Picnic Thursday, July 21st, 5:30 - 7:30 pm, McMinnville

Susan Watkins and Arnie Hollander Tree Farm—Yamhill County Tree Farmer of 2016
What will 25 years of hard labor do for a deforested hillside? Come see the work Arnie and Susan have done to arrive at a diverse forest. See an oak restoration project in progress, stream side rehabilitation, the largest madrone in Yamhill County and a unique home. You will want to come for the food (provided) and the tour. Bring a chair and share the evening with friends.

Directions to 13440 SW McCabe Chapel Road, McMinnville: From McMinnville take Highway 18 toward the coast. Turn right onto Masonville Road (before the dump). Take first left on McCabe Chapel Road. Turn right on the gravel road just past a graying barn (marked with the address, 13440).

Columbia County Small Woodlands Association Summer Woodland Tour

Saturday, July 23rd, Cedar Row Farm, Mist

Coffee/donuts at 8:00 am. Tour begins at 9:00 am. The 155-acre farm along the Nehalem River is managed by CCSWA member Eve Lonquist and family. Tour highlights: young alder plantations, recent thinning project and equipment demo, riparian tree planting, and firewood bundling and marketing through the Oregon Woodland Cooperative. BBQ lunch provided by CCSWA (non-members please consider a donation to cover your lunch cost). RSVP by July 17th to Mark Dreyer: 503-369-9592 or mdreyer51@msn.com.

Directions: from the junction of Hwy 47 and Hwy 202 in Mist, follow Hwy 202 north for 4.3 miles. Turn right on Fishhawk Rd. Cross the Nehalem River and take the first right onto Lonquist Rd. Follow signs for parking.

Washington County Small Woodlands Field Tour at Chehalem Ridge

Saturday, July 23rd, 9 am at Chehalem Ridge Metro Property

Active oak savanna restoration, results of 4 years of cut-to-length thinning in young plantations, and thinning in a mature mixed fir/madrone/oak woodland. For details and directions contact www.wcswa.com.

Monroe Oak Mill Tour

Friday, August 26th, 9 am, 1335 W. Main St., Sheridan

Sponsored by Marion/Polk Small Woodlands Association. Tour of family-owned mill that processes Oregon white oak and other hardwoods. Wear closed-toed shoes and bring a hard hat.

Postcards from Scandinavian Forestry Tour

The Oregon Woodland Cooperative, Washington County Small Woodlands Association, and OSU Forestry & Natural Resources Extension recently sponsored a forestry tour to Scandinavia. Twenty-six woodland owners, most from Oregon, spent 2 ½ weeks in Sweden and Norway. The purpose of the tour was to look at forestry practices in that part of the world and especially the strong tradition of landowner cooperatives.

Brad Withrow-Robinson, OSU Forestry & Natural Resources Agent for Benton, Linn and Polk Counties went on the trip and sent some electronic postcards about what they saw and learned. They are posted on the TreeTopics blog, <http://blogs.oregonstate.edu/treetopics>. Or, click below to view the postcards.

[Postcard 1: Arrival.](#)

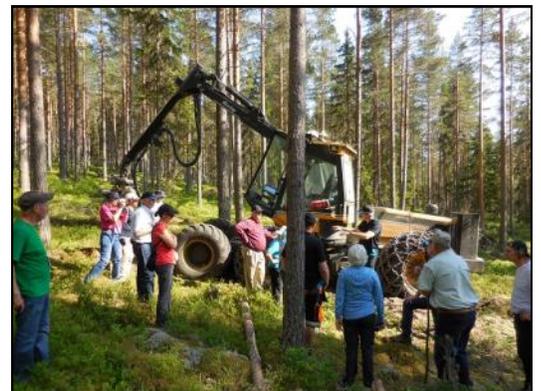
[Postcard 2: Old and new approaches in Dalarna County Sweden.](#)

[Postcard 3: A very early example of forest regulation.](#)

[Postcard 4: Parting shots from Sweden.](#)

[Postcard 5: From the fjord region of Norway.](#)

[Postcard 6: Lots of wood used in buildings in Norway.](#)



Effects of Drought Continue in Valley

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

Adapted from TreeTopics, <http://blogs.oregonstate.edu/treetopics>, May 26, 2016

Conifer trees around the Valley continue to show signs of severe drought and heat stress this year. This should not be news to many readers: young dead trees are now a common sight throughout the Valley. Also, I wrote about this problem in past [blogs](http://blogs.oregonstate.edu/treetopics) (<http://blogs.oregonstate.edu/treetopics>, see stories from May and September 2015 for background) but have new updates for this season.

I think you can expect to continue seeing similar damage to Douglas-fir this year and that symptoms will continue to unfold as the season progresses. Some of the trees damaged late last year did not show that damage immediately. The damage did not become evident until the trees came out of dormancy and began to grow this spring. Also, the various insect and disease organisms that take advantage of weak and damaged trees are likely to continue with their business this year, causing new signs of drought damage to show up during the season. Happily, those players like Douglas-fir cankers and twig weevils do not typically blow up and kill healthy trees. This suggests things will look much like what we saw and described last year and is likely to continue to unfold this season and maybe longer, whatever weather we get. "It is important to understand that the effects of drought damage do not go away suddenly when the rain starts again" cautions Christine Buhl, ODF Forest Entomologist. "Drought can impact the tree's whole plumbing structure, and affect the growth and vigor of the tree for years."



What we are beginning to see and anticipate may be different this year is more damage to stands rather than just individual trees, and damage to older and larger Douglas-fir trees than was typical last year. The drought is likely adding to and exacerbating other problems lurking out of view, so crowded stands, existing root disease and marginal sites (wet or shallow soils, southern aspects) can all be expected to contribute to the problem.

Unfortunately, this implies potential economic or forest health issues. Any merchantable tree lost to drought represents an economic loss if not salvaged. But larger (>8" dbh) drought-damaged Doug-fir trees can also support growing populations of bark beetles, such as the Douglas-fir beetle. Under the right conditions Doug-fir beetles' numbers can increase to the point where they can overcome the defenses of healthier trees in the stand. Drought stressed trees are not generally considered as good a nursery material as [winter storm damaged trees](#) but can support a damaging increase of beetles if conditions are right. I may need to write more on that later in the season.

We will also likely see drought stress issues in other conifer species. In our local Valley ponderosa pine, it is already causing some limited outbreaks of the California five-spine Ips, a tiny but destructive beetle. With several generations a year, Ips can rapidly increase in numbers when trees are stressed and conditions favor the insect. Also, the Ips is able to use much smaller wood (just three inches or more in diameter) than the Douglas-fir bark beetle mentioned above, so even a young plantation can provide brood material for the beetle. Sanitation of dead and dying trees as well as slash materials >3" is a very important control measure for Ips. For more information on the Ips life cycle and management, see this 2014 [article about Ips](#) or follow links to other resources provided below.

The Oregon Department of Forestry has a [series of fact sheets](#) on insects, disease, drought and slash management. Several are currently being revised, so be sure to check back in July to see the updated versions. They can be found at <http://www.oregon.gov/ODF/ForestBenefits/Pages/ForestHealth.aspx>.

Matteson Forest Update

Management activities are underway at the Rubie P. Matteson Demonstration Forest near Hagg Lake. This year, activities are focused on mapping and inventory as well as readying the property for public use. Below is a summary of recent and ongoing projects on the forest.

- Last summer, we began walking the property lines to look for and flag old survey markers and corners. We will be doing a property line survey (with new blazes) in 2016-17.
- Last fall, roadside spraying occurred along the main road into the property to control invasive plants. Backpack site preparation spraying was also done in three areas that had been harvested prior to OSU ownership.
- The three harvest areas were replanted this winter as the reforestation success prior to OSU ownership was poor.
- We hired OSU forestry student Corey Thompson (a Clatskanie High School graduate) to help with our forest inventory. Corey designed an inventory grid and this spring and summer has been out at the forest establishing plot centers. Inventory data collection will follow.
- A parking lot will be constructed this summer. The purpose is to provide parking for tours and classes and to keep vehicles in the parking area to avoid transporting invasive weed seed into and from the property. The parking lot will include putting down fabric and rock.
- Looking ahead to 2017, we would like to do a cut-to-length thinning in the 30-year-old plantations which comprise about 1/3 of the property. We intend to demonstrate various spacings and thinning intensities in this area.



Left: Stephen Fitzgerald flagging a stake found on the property line. Center: Tree planting crew at work in January 2016. Right: OSU student Corey Thompson in the 30-year-old even aged stand. Thinning is needed here!

Reading this on paper?

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Please indicate which county you are in. Include a physical address and phone number (so we can remove you from our paper mailing list and keep our email list current).

Shrubs for Wildlife: Oceanspray (*Holodiscus discolor*)

By Amy Grotta, OSU Forestry and Natural Resources Extension

If one of your land management goals is to provide wildlife habitat, you'll want to consider keeping a mix of native shrub species on your property. Shrubs provide a host of services to wildlife, including shelter or cover, nesting space, and food from their twigs, leaves, flowers, and fruit. With thought given to species selection and location, retaining existing shrubs or planting them can benefit wildlife without compromising timber growth or forest operations. This is the third article in our *Shrubs for Wildlife* series. Each article highlights one species that benefits wildlife in northwest Oregon forests.

Species Name: Oceanspray

Description: A medium to large shrub, with long arching stems and up to 15 feet tall. The leaves are 1 to 3 inches long, lobed with a central vein and arranged alternately on the stem (center photo). The tiny cream-colored flowers grow in dense clusters at the branch tips and are present in late spring to mid-summer (top photo). The dried flowers persist into wintertime. Oceanspray's name comes from the appearance of these flower clusters.

Wildlife Value: Oceanspray is beneficial to songbirds who use the shrub for cover. The flower clusters attract bees and other pollinators. Looking closely at the blooming clusters, I found them teeming with tiny insects (bottom photo). Besides pollinating the shrubs, these insects are going to be somebody's lunch - those songbirds, perhaps.

Management Considerations: A shade tolerant shrub, oceanspray is found in the understory of mixed hardwood forests and in gaps of mature, open conifer stands. When harvesting, consider carrying oceanspray over to the next rotation by designating shrubs to be protected during harvest. Retaining clumps of shrubs rather than dispersed will reduce competition with planted trees.

If you are interested in learning more about creating wildlife habitat on your property, check out these publications:

[Family Forests and Wildlife: What You Need to Know](#)

from Woodland Fish and Wildlife; and

[Wildlife in Managed Forests: Early Seral Associated Songbirds](#) from Oregon Forest Resources Institute.



Considering Assisted Migration for Trees in a Changing Climate

By Glenn Ahrens, OSU Forestry & Natural Resources Extension (Clackamas, Marion & Hood River Counties)

Adapted from Oregon Forests and Climate Change, <http://blogs.oregonstate.edu/orforestsccl/>, April 26, 2016

Trees are genetically adapted to their local climate. Local populations of trees may become maladapted if climate changes faster than species or populations ability to move or evolve. Recent research on the genetics of Douglas-fir stated that “Current populations are expected to be poorly adapted to future climates.”¹ The authors also suggested “Human intervention will be required to ensure productive and adapted Douglas-fir forests in the face of climate change.” An approach to addressing this problem is *assisted migration* – the deliberate movement and establishment of a new population of a species or genetic type outside its current geographic range to another in order to introduce better adaptive traits.

What types of trees would you plant if you wanted to anticipate a warmer climate in the future? How would you decide?

Apart from the context of climate change, maladaptation of Douglas-fir in the Pacific Northwest has been observed in “off-site” trees planted too far outside their parent tree’s area of local adaptation. Problems such as weather damage, increased disease, slow growth, and poor health result from off-site trees being genetically maladapted to local conditions. Most problems resulting from planting trees off-site are a legacy of past practices, done before we understood the importance of local adaptation. Current practice is to plant trees from local seed sources within geographic “seed zones” determined from genetic research on each species. But if climate changes significantly, our current seed zones eventually won’t match up with the climate.

Over the long term, [large-scale controlled experiments](#) are being established to provide research-based answers on how to approach assisted migration. But landowners and forest managers have an immediate need to decide what to plant each year. Given the complexity of biological systems and the uncertainty of future climate, there are no clear guidelines for assisted migration yet – people deciding what trees to plant have to make an educated guess.

From research on climate and tree genetics, one approach suggested for assisted migration is to plant a mixture of local seed sources along with some seed sources from lower elevations and farther south. This could be combined with higher planting density plus thinning to allow for some selection of better trees depending on future climate conditions.

Another approach to dealing with the uncertainty of future climate is the deployment of genetically improved seedlings, which is already standard procedure for most timber companies and agencies in Oregon. Tree improvement programs generally aim to breed trees with superior characteristics in terms of growth rate, disease resistance, and tolerance to weather extremes.

(continued next page)



Left: “Off-site” California Douglas-fir at Oregon test site displaying increased vulnerability to needle disease.

Right: Genetic variation in timing of budburst on Douglas-fir from different geo climate zones.

Photos: Brad St. Clair.



“Because parent trees in tree improvement programs come from a wide geographic area, planting stock may be more diverse than naturally regenerated stands. ...seed from breeding programs may be useful for buffering against an uncertain future climate.”¹

Assisted migration is already being deployed in British Columbia (BC), where the degree of warming over the last 35 years has raised immediate concerns about maladaptation. Seed transfer standards in parts of BC were changed starting in 2008 to allow moving seed of Douglas-fir and other species 200 m higher in elevation and one seed zone further north (up to 300 kilometers or 2 degrees of latitude).^{2,3} Also, standards in BC were amended to allow planting western larch in some areas outside of its current range of occurrence, up to 10% of the species mix in new plantings.

Specific changes to seed zones and seed transfer guidelines have not been proposed for Oregon. The degree of warming in Oregon over the last 35 years is much less than that in higher latitudes of BC. However, for coastal Douglas-fir in Oregon, genetic traits including timing of bud break, summer growth and bud set, along with drought hardiness are all strongly related to local climate of the parent tree's origin. These traits are key determinants of Douglas-fir maladaptation, related to climatic factors such as winter temperature, frost dates, and drought severity. Future projections suggest that warmer temperatures, longer growing seasons, and increased drought severity will stress Douglas-fir that are adapted to current climate conditions.

A challenge with implementing assisted migration is the tradeoff between short-term vs. long-term maladaptation. While current populations of Douglas-fir may not be adapted to the future climate, trees from warmer climate zones may not be adapted to the current climate at higher elevations or further north. Regardless of the approach one takes to assisted migration, it is advisable to be cautious, take small steps and observe the results over time.



Aerial view of study site showing variation in Douglas-fir performance due to genetic differences related to geographic origin. Photo: Jonathan Burnett, UAS flight under COA WSA-212.

For landowners planting the next generation of trees, there appear to be a few basic options to consider with climate change in mind:

- Planting native seedling stock within current seed zones matching your planting site (status quo).
- Choosing a mix of seed origins, some from local seed zones, some from zones further south or lower in elevation.
- Planting genetically improved stock from existing tree breeding programs.
- Combinations of the above?

Foresters in charge of reforestation across a variety of forest ownerships in Oregon are considering these options. To find out what they are thinking about assisted migration, stay tuned for a future article.

References:

1. [Genetic Maladaptation of coastal Douglas-fir seedlings to future climates](#). St. Clair and Howe. 2007. *Global Change Biology*, 13 p 1441-1454.
2. [Assisted migration to address climate change in British Columbia: recommendations for interim seed transfer standards](#). O'Neil and others 2008. BC Ministry of Forests. Technical Report 048.
3. [Chief Forester's Standards for Seed Use in British Columbia](#).
4. [Assisted Migration: What It Means to Nursery Managers and Tree Planters](#). Williams and Dumroese 2014. *Tree Planters Notes*, Vol. 57, No. 1, p 21-26.



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