Summer greetings from your Extension Forester!

As I write, we are having “red flag” fire weather in early May which makes all those wildfire preparedness workshops we have been holding seem very appropriate. The long range forecast is for above normal temperatures and about average rainfall (which is not much) this summer. The fire season outlook is for above average wildfire occurrence west of the Cascades, in part due to the luxurious spring growth of grass that will dry out later. May is “wildfire awareness month”, so I must emphasize that now is a good time to tap into wildfire education resources such as Firewise and OSU Wildfire publications. It’s a good idea to do your own assessment of wildfire hazards for your place.

Along with concerns about fire this summer, I expect to see continuing issues with forest and tree health, due in part to cumulative effects of climate stress. Since forest health tops the list of concerns expressed by landowners (those who respond to surveys or call the Extension office), I spend a lot of time on local forest health issues. So I am compelled to step back and look at the bigger picture related to forest health in Oregon.

Every other year, OSU hosts a conference on Forest Health in Oregon: State of the State and every year there is an aerial survey of forest health conditions for the whole state. Results show that the annual rate of damage and mortality of trees in Oregon is <1% and trees are growing more than are dying from any cause (insects, disease, climate, & harvesting). The rate of damage and mortality in 2017 (most recent statewide results) was below the 10 year average. Of course, what counts most is what’s happening in your woods or Christmas tree fields. We do have a variety of localized issues in our area, for which we have good resources and expertise available to help you.

Along with the wonderful new growth of trees and flowers, the “riot of spring” brings proliferation of both weeds and wildlife that may challenge us in trying to manage them and find the balance between negative and positive aspects. For more on this, look to the events and articles in this issue of Woodland Notes.

All the best to you and your trees this summer!

Glenn Ahrens,
OSU Extension Forester, Clackamas, Marion, Hood River Counties
UPCOMING FORESTRY PROGRAMS

Community Forestry Day at Hopkins Demonstration Forest

Saturdays, June 8, July 13, & August 10, 2019
8:30am-2:30pm
16750 S. Brockway Rd., Oregon City

WE NEED YOUR HELP to create, support, and maintain forestry education opportunities at Hopkins. This is your chance to learn by doing a variety of projects in a sustainably managed woodland.

Projects include:
- June: Trail maintenance, yurt construction, welcome center, & wetland pond maintenance
- July: Trail clearing & wetland pond restoration maintenance
- August: Projects TBD

A delicious hot lunch will be provided. Registration is requested. Contact Jean at 503-655-8631 or register online at https://beav.es/ZGH.

For more information contact Peter Matzka at peter.matzka@oregonstate.edu.

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Send in the Woodland Notes Subscription Postcard by August 1!
Woodland Wildlife Workshop

Saturday, May 18, 2019, 9:00am–3:00pm
Hopkins Demonstration Forest, 16750 S. Brockway Rd., Oregon City

Join us for a **wildlife-focused walking tour** of the beautiful 140-acre Hopkins Demonstration Forest just 15 minutes south of Oregon City! The tour, led by wildlife biologists Fran Cafferata-Coe and Jimmy Taylor, will highlight the diversity of wildlife opportunities and challenges across different forest management types and sites.

Topics covered will include:
- Biology and management of key species
- Managing habitat features
- Methods of damage prevention and protection
- “Calling” for owls and other species.
- Wildlife inventory techniques and game camera demonstration
- Opportunities and challenges around ponds, wetlands, and streams

Morning coffee and other refreshments will be provided. Dress for a field day (rain or shine) and bring your own lunch. **This event is free, but space is limited.** Find out more and register online at [beav.es/Zqc](beav.es/Zqc) or contact Jean at the Extension office at 503-655-8631.

Marion-Polk OSWA Chapter Events

**Nuts, Bolts and Dollars $$$**
Tuesday, May 28, 2019
6:00am–8:00pm
Salem Public Library, Anderson A and B Rooms
585 Liberty St SE, Salem

Presenters Terry Lamers and retired ODF forester Steve Vaught will look into the actual dollar values of your forest.

Conversation includes:
- How to tap into actual dollar value of your forest
- What smart ways you should use to avoid some of the bad outcomes
- From the cruise of what you have, to the way and when to access it with appropriate roads
- Various logging costs and taxation treatments

No fee but quarters will be needed for the parking meters at the Salem library parking lot.

**Marion-Polk OSWA Annual Meeting**
Saturday, June 8, 2019
12:00 noon–2:00pm
Scottish Rite Temple
4090 Commercial St SE, Salem

Featuring a keynote **presentation on Archeology** presented by speaker Keith Baldwin and, if possible, a representative from the Confederated Tribes of Grand Ronde. Other meeting items include the log market report and treasurers report, along with chapter director and officer elections.

Bring a guest or two that have forestland and may be interested in the Oregon Small Woodlands Association. The doors open at 11:30 and lunch is at 12:00 noon.

**The fee is $5 at the door.**
Wildfires over the past few years may make owners of forested land nervous about the upcoming dry weather of summer. We live in a fire-prone environment, but there are effective practices for minimizing impacts of fire in your neighborhood.

To learn more, attend one of the upcoming workshop for landowners and residents “Keeping Your Home & Property Safe from Wildfire”. The sessions will be led by OSU Extension Forester, Glenn Ahrens, joined by representatives from Oregon Department of Forestry and the Hood River Fire Department on May 30 and the Marion County SWCD on June 5.

Presentation, discussion, and reference material cover:
- Fire-wise practices for creating defensible spaces
- Thinning, pruning, and groundcover management practices to reduce fire hazards in woodlands
- Community Wildfire Protection Planning
- Making a plan for your family to escape in the case of wildfire
- Sources of assistance for assessing risk
- Planning and implementing fuels reduction and other treatments to reduce hazards
- Sources of financial assistance and cost-sharing opportunities for fuels reduction

Hood River Wildfire Preparedness
Thursday, May 30, 2019, 6:00–8:00pm
Community Room, Ty Taylor Fire Station, 1785 Meyer Parkway, Hood River
The workshop is free, but space is limited, so registration is required. To register, please call OSU Extension, Hood River County at 541-386-3343 or register online.

Marion County Wildfire Preparedness
Wednesday, June 5, 2019, 6:00-8:00pm
Stayton Fire Station, 1988 West Ida Street, Stayton
The workshop is free, but space is limited so registration is required. Register at https://beav.es/Zcw or contact Jean at the Clackamas Extension office at 503-655-8631.
Oregon Small Woodlands Association (OSWA) Annual Meeting
Thursday, June 20–Saturday, June 22, Corvallis

This annual gathering includes a good mixture of business and fun (presentations, programs, and tours of local mills and of the 2019 National Outstanding Tree Farmer of the Year nominee!). This event is only open to OSWA members. Find out more at https://www.oswa.org/blog/event/oswa-annual-meeting-2019/.

CCFFA Annual Picnic & Woodland Farmer of the Year Tour–Guttridge Brothers Tree Farm
Saturday, June 29, 2:00-7:30pm

All are welcome to attend this summer celebration of the 2018 Clackamas Woodland Farmer of the Year winners, Guttridge Brothers Inc. Their vision includes sustainable economic & habitat considerations, with special focus on maintaining road access, protecting water quality, and supporting forest health.

Read more and register to attend at https://beav.es/Zci or contact Jean at 503-655-8631.

Twilight Tour–Hollingsworth Tree Farm, Molalla, Clackamas Woodland Farmer of the Year Nominee 2018
Thursday, July 11, 6:00-9:00pm

Join us for a summer tour of Hollingsworth Tree Farm. This 278 acre forest has been in the Hollingsworth family since 1933. Today, John and Adair Hollingsworth and their extended family are very active in the use and management of the forest. They have maintained a great diversity of forest types and habitats. These include young regeneration, mixed species of varied ages, riparian forests, and large areas of mature and older timber.

The Twilight Tour will feature highlights including:

- Commercial thinning
- Forest health challenges and management options
- Small clearcuts, some for the purpose of sanitizing root rot areas
- Reforestation, weed control and vegetation management
- Improving roads and stream crossings

The tour is free, but registration is required so we can give you specific directions to the meeting place. Snacks and refreshments will be provided. Please come prepared to carpool with others at the event to reduce the number of vehicles on their forest roads.

Register online at http://bit.ly/HollingsworthTwilightTour, call 503-655-8631, or email jean.bremer@oregonstate.edu
The riotous growth of spring often creates a challenge for us to “keep up with the weeds.” We may also be challenged to find the balance between multiple, sometimes conflicting objectives such as:

- Control weeds to reduce competition with trees and crops
- Keep plants low to reduce fire hazards
- Discourage unwanted wildlife and animal damage by reducing habitat
- Favor growth of diverse native plants for wildlife habitat, biodiversity, and beneficial insects

Recent research at OSU can help us make informed decisions about some of the tradeoffs. This was summarized in the 2019 Tree School class “Balancing Tree Growth and Wildlife Habitat” by Thomas Stokely (see the presentation Interactions among intensive forest management, early-seral plant communities and deer and elk in the Oregon Coast Range, by Stokely, Kormann, & Betts, OSU College of Forestry). They are studying effects of various levels of vegetation management on tree regeneration and other plants and how it affects wildlife species. It is a long-term study on large scale industrial forest regeneration units, but the results may be useful for understanding wildlife interactions with forest management practices.

We know that weed control can make a big difference in survival and especially growth of forest trees. So it is no surprise that researchers found moderate to intensive weed control with herbicides increased tree growth by 3-5 times compared to light or no weed control five years after clearing and planting.

They also showed that intensive weed control increased the non-native plant species over native species. Surprisingly, there was no clear difference in the degree of browsing on seedlings between intensive and light weed control. Seedlings surrounded by other vegetation (light or no weed control) were still browsed. Seedlings were also browsed in areas where other vegetation was minimized by repeated herbicide application. But, animal browse on the competing vegetation appeared to increase seedling growth in the intensively sprayed units after five years. Also, deer and elk did not avoid intensively sprayed areas, but neither did they excessively browse trees when other vegetation was sparse.
It is also no surprise that animal behavior is extremely variable. Much depends on the landscape setting and adjacent habitats as they affect presence and behavior of animals in your patch of woods. It really helps to get to know the specific situation for important species such as elk and deer and observe how they are behaving in your patch of woods. Researchers made extensive use of wildlife cameras to detect animal presence and behavior. You can too! See the article Wildlife Cameras: a snapshot of what you need to know from OSU Extension.

**Wildlife Friendly Weeding and Fuels Reduction**

Keeping your landscape clean and green near homes and other buildings is good for reducing fire hazards. But farther out in the woods (>100-200 feet), a different style of weeding and fuels reduction can be used to maintain wildlife habitat. Where it does not compromise other objectives too much, hold off on mowing or clearing grass, herbs, and shrubs until mid-July or later. Thinning and pruning trees and shrubs is best done in fall and winter to minimize impacts to wildlife and also reduce attraction of pest insects. Rather than uniform thinning or large clearings, clumps, patches, strips, or edges of fields, plantations, and roads, can be quite beneficial while minimizing impacts to trees or crops. In terms of fuels reduction, you don't have to clear everything. The goal is to make strategic fuel breaks and there is often room to retain clumps, patches, and strips for wildlife as well as aesthetic values.

For more detailed information and advice, see the publication on [Wildlife friendly fuels reduction](http://woodlandfishandwildlife.com/) along with other excellent educational resources on Woodland Fish and Wildlife management at http://woodlandfishandwildlife.com/.

Wildlife-friendly Mowing?

May is “wildfire awareness month” and it is also “native plant month”.
[https://conservationdistrict.org/2019/may-is-native-plant-month.html](https://conservationdistrict.org/2019/may-is-native-plant-month.html)

**Tree School Feature:**

**Creating Habitat**

*By Rose Clarke and Jon Wagner*

Each year, spring brings an amazing transformation to our woodlands: leaves magically emerge from bare deciduous twigs, colorful flowers open, fuzzy bees wiggle out of their burrows, songs ring as migrating birds return, and bright new conifer growth lights up branch tips. As long as you keep your raingear and allergy medicine close, it’s a great time of year.

The energetic buzz of the season can be a great reminder for us to take a look at the busy non-human activity around us. This year at Tree School we were very happy to welcome new instructor Jon Wagner, Conservation Specialist with East Multnomah Soil & Water Conservation District (EMSWCD), who taught a morning class on “Creating Habitat for Wildlife & Beneficial Insects.” The 50-person class had filled within one week of opening registration, reflecting strong interest in this topic! (Jon also is a talented artist! See more of his illustrations at [https://jonstreehouse.tumblr.com](https://jonstreehouse.tumblr.com))
Creating Habitat cont...

The concept is simple: insects and animals will show up where there is suitable and accessible habitat that meets their basic needs. But in our modern world suitable habitat can be hard to find! Growing human populations, land use changes, alteration of waterways, climate change, invasive species, chemicals, and pollutants all spell trouble for most animals and insects. Cats alone kill an estimated 1.3 to 3.7 billion birds plus 6.9 to 20.7 billion mammals each year in the U.S.! Our feline friends are adorable and snuggly, yet invasive and voracious.

So what can be done to support wildlife and beneficial insects in your yard or woodland? Jon recommends designing, developing, and implementing a plan specific to your site and the wildlife you would like to encourage. Turn your landscape into a naturescape, with a variety of native plant species and lots of places to hide, nest, rest, and feed.

In a local woodland, creating a naturescape might include:

- **Enhancing riparian areas** with sticks, logs, rocks, and riparian shrubs
- **Setting up hibernacula** (shelters) such as brush piles, rocks and boulders, snags, and nurse logs
- **Maintaining a variety of types of habitat:**
  - Sunny, open areas with bare ground for native bees to burrow
  - Shaded areas in the trees with a range of understory native plants
  - And everything in between!

Think about the **connections between habitats**. Is there protection or cover from one area to another? Supplement with **bat, bird, and bee houses** and **bird feeders** (away from cats!) Establish and maintain **native plants**.

Why? Because these plants are adapted to local soil and climate conditions, making them easy to take care of, and they are best suited for the native birds, bugs, and animals who depend on them.

Want to find out more about pollinators, building a hibernaculum, and developing a wildlife plan from Jon’s Tree School presentation? You can find the PowerPoint and notes online at [https://beav.es/ZT8](https://beav.es/ZT8).

If you have specific goals or questions about supporting particular species, such as monarch butterflies, you will find eager and knowledgeable support from your local SWCD staff or from the foresters and Master Gardeners in our county OSU Extension offices.
New Extension Center to be Showcase for Forests and Wood Products

By Mike Bondi, Clackamas Extension Liaison

When planning began more than five years ago for Extension’s new Education Center in Oregon City, the vision was to create a state-of-the-art building to showcase the important role of forests and wood products in our county. That vision is coming closer and closer to fruition.

The land use approval process for Extension’s new building site—at the southeast corner of Warner Milne and Beavercreek Roads on Clackamas County’s Red Soils campus in Oregon City—began this past April 9. Assuming land use approval will occur sometime later this spring or early summer, Extension’s project will be ready to apply for building permits and advertising construction contracts. If all goes according to schedule, ground breaking for the 22,000 square foot, two-story, all wood building could occur as early as August or September.

“We are finally getting close,” said Mike Bondi, former Extension Forestry Agent in Clackamas County and spearhead for the project. The Extension Education Center will be the first advanced wood technology public building in the county—in other words, cross laminated timber, mass plywood panels and laminated beams will be featured in the construction.

The Extension Education Center will be a modern-day Cascade design with log facades and entry elements. “I think the building is going to be really cool,” said Bondi. “We want to demonstrate that all-wood buildings are a preferred alternative to concrete and steel for a very livable and functional public building."

Also, the building will be the first net-zero public structure in Clackamas County—meaning that the building will create all the energy needed to operate it. Roof-top solar panels—over 200—will provide the power. The building will be “super insulated” and oriented on the building site to minimize the heat loading. Furthermore, the building is being designed to withstand a major earthquake and will function as an emergency shelter in the event of the “big one.” The Extension Education Center will include a 150-seat conference room and teaching kitchen—again, ideal for emergency use.

Private fund raising is now underway to help offset the cost of the facility—expected to be approximately $10 million. Forest product companies and landowners are being invited to participate to help showcase our industry. Woodland owners can participate by providing logs for the facades and an outdoor education pavilion—and, financial contributions, too. The “Quiet Phase” of the fundraising campaign underway now is seeking gifts of $25,000 and more. Public fundraising for all gifts will begin at ground breaking.

“I see this building as a tribute to our people and businesses in the forestry community. We want everyone to be involved and have a part of this project—just like a giant barn-raising. The Clackamas Extension Education Center will be an incredible community resource and a place for learning and growing over the next 100 years.”

For more information, contact Bondi at michael.bondi@oregonstate.edu.
We humans frequently say things like we are “stressed out” or we are in a “stressful situation”. And to be sure, “stress,” if it continues, can lead to a long list of physical problems and a cascade of serious medical conditions.

We also frequently talk about trees being under “stress” and the range of problems that may befell them. Unlike people, trees need to have mechanisms to cope with stressful situations in place. They can’t move to a site with more water or deeper soil.

All this leads to some recent observations of the impacts of “stress” I’ve been observing in Christmas tree and bough plantations. The situations typically involve tree mortality related to beetle and weevil attacks which may or may not be associated with root disease or stem pathogens.

When bark beetles attack a healthy tree, the tree’s primary defense is to “pitch out” the invader in streams of sap. This effort requires a high level of moisture and a tree with healthy foliage. If pitching out the beetles fails, some trees release hydrocarbon gases to kill the beetle. But beetles also have chemical responses. Beetles can release chemicals telling other beetles to help in the attack or to move on. It often is a numbers game. Beetles may first attack weak trees. If beetle numbers get high enough, even healthy vigorous trees can be killed.

For centuries, researchers have been searching for ways to kill beetles after they are in trees. The Forest Service tried electrical charges and small plastic explosives. Some of the most toxic insecticides known have been injected into trees with little success.

Typically, the first clue a grower might notice are areas of dying trees. In the case to the right (fig.1), a grower near Silverton noticed areas of dying noble fir bough stands. In this case, the smaller Christmas tree stand on the lower left did not show any damage and larger Douglas-fir in the same area were healthy.
An on the ground winter time evaluation of the dead trees in fig. 1 revealed the following (fig. 2). There were pockets of dead and dying trees on a modest slope. My first thought was that a root rot was the cause of the problem, however the patch of dead trees was rather large and had developed rapidly, which is not typical of root rot.

On closer examination, (fig. 3) it was evident that beetle damage was significant in this stand. Individual trees often had hundreds of beetle holes that were approximately the size of a BB. You seldom find the beetle causing the damage. Frequently, you do see the galleries the beetles create beneath the bark and these are commonly used to identify the beetle. In the case below, we see long horizontal galleries with smaller vertical channels. This is characteristic of the Fir Engraver beetle (Scolytus ventralis). Another beetle I’ve seen in both noble and Douglas-fir of smaller diameter trees is the Twig Beetle (Pityophthorus spp.). The galleries created by this species create an “X” pattern in the phloem tissue beneath the bark.

So, what’s going on? In the past few years, Christmas tree growers have seen increasing damage from two or three beetle species and from Douglas-fir Twig Weevil (Cylindrocopturus furnissi). The operating hypothesis, is that these trees are likely stressed by a number of dry, hot summers and the beetle/weevil populations are taking advantage of the situation. By some estimates, around 50% of the tree mortality in forest stands across the US are due to beetles.

More specifically, Fir Engraver beetles, seem to be attracted to bough sized noble fir. The thin bark and small diameter in Christmas trees do not attract the beetle and the very thick bark of mature Douglas-fir is not preferred.

As with most beetle infestations there basically is little that can be done after the beetles are inside the trees. With some beetles and with some very high value trees, pheromone scents in traps can capture some beetles and spraying the bark prior to attack can limit attacks. One anecdotal report with Douglas-fir Twig weevil suggested that irrigation helped limit damage, by increasing tree vigor. Yet few growers have opportunities to irrigate their fields.

Sanitation probably remains the best possible option for mitigating the beetle damage. Removing recently killed trees before beetle flight in June is the timing suggested in forest stand clean up and should work in bough stands as well.
Local companion Forestry newsletters coming soon online!

As we learn how to navigate our new online webpage design, we are excited to announce that our online Woodland Notes collection now also features two partner publications:

**GROUSE HOLLOW NOTES**: the latest news from Hopkins Demonstration Forest & its active environmental education programs.

**FOREST-TREE LEADER**: a delightful publication created by the Clackamas County Farm Forestry Association, including a regular Extension update & many other articles relevant to local landowners.

Add these great newsletters to your Forestry reading list!

These companion newsletters will soon be found online at the Woodland Notes page at [https://extension.oregonstate.edu/newsletter/woodland-notes-newsletter](https://extension.oregonstate.edu/newsletter/woodland-notes-newsletter).