Seedling Availability (or lack of) for 2019 Planting

Hopefully, if you are planning to plant trees this coming winter you have your seedlings reserved. Supplies predictably dry up this time of year, creating stress for those landowners who haven't planned ahead. Here's a look at where seedling availability stands right now.

- Both Columbia County Small Woodlands Association and Washington County Small Woodlands Association are sold out of pre-ordered Douglas-fir and western redcedar. CCSWA will have bags of both species for sale at their March 2019 public sale – first come, first served.

- Nearly all area forest seedling nurseries that I looked into are sold out of Douglas-fir. Most are also sold out of western redcedar. Drakes Crossing Nursery in Silverton is still listing Douglas-fir and western redcedar online as available; they specialize in Christmas tree seedlings with 2+0, “unimproved” seedlings being their mainstay. Red alder and Valley ponderosa pine are generally more available at area nurseries.

Options for those still looking:

- CCSWA public sale, Saturday, March 9th. Sale typically opens around 8:30 am. Arrive early for bag quantities!

- Often people who pre-ordered from WCSWA or CCSWA will have surplus bags after they have finished planting. You can contact the sales chairs and ask to be notified if anyone has surplus to re-sell.

- Likewise, large landowners sometimes have surplus seedlings at the end of the planting season. Try calling your local ODF office starting around March 1 to see whether they know of any surplus available. Also, groups like Women Owning Woodlands Network and OSWA chapters sometimes circulate information about surplus trees, so join one of these peer groups if you’re not already a member.

- It’s always a good idea with surplus seedlings to ask how the bags have been stored, the nursery they were originally purchased from, and as much information as known about the seed zone.

- Finally, check www.forestseedlingnetwork.com to see if seedlings are posted for sale. As of now, there is nothing for 2019, but sometimes there will be surplus posted.
UPCOMING EVENTS

Mark your calendars for these education programs!

Maple Syrup from Bigleaf Maple
Saturday, October 13th, 9:00 am. Location: Columbia County Extension Office, 505 N. Columbia River Hwy, St. Helens
Columbia County resident Joe McGilvra has been producing maple syrup from bigleaf maple for the last several years. In winter 2017-18 he produced dozens of gallons! Joe will talk about what he’s learned about syrup production. Bring your questions. No cost, but please RSVP in advance. Call Sonia Reagan, 503-397-3462 or email sonia.reagan@oregonstate.edu.

Forest Management Plan Drop-in Help Sessions
Tuesday, October 23rd, 1:00-5:00 pm, Washington County Extension Center, 1815 NW 169th Place, Beaverton
Wednesday, October 24th, 1:00-5:00 pm, Yamhill County Extension Office, 2050 Lafayette Ave, McMinnville
Thursday, October 25th, 1:00-5:00 pm, Columbia County Extension Office, 505 N. Columbia River Hwy, St. Helens
Are you working on a management plan for your woodland? Whether you’re trying to get started or in the process of updating an old plan, this is an opportunity to get some help. Drop in to “office hours” to discuss your questions with your Extension Forester, and get some traction on that plan, or how to implement it. Bring a copy of whatever you have, or even bring your laptop or tablet if you like. No registration necessary, but it would be helpful to email amy.grotta@oregonstate.edu ahead of time so we know to expect you.

Selling Logs From Your Property: An Educational Symposium for Landowners
Friday, November 2nd, 5:00-8:00 pm and Saturday, November 3rd, 9:00 am-5:30 pm, Hopkins Demonstration Forest, Oregon City. Logging is a high-stakes endeavor that you may only carry out a few times in your lifetime as a woodland owner. This 1.5-day symposium will help you plan and carry out a logging project with confidence. Speakers will include consulting foresters, experienced landowners, log buyers, loggers, and representatives from the OSU Extension Service and Oregon Department of Forestry. Topics will include sales fundamentals, road access, taxes and contracts, log scaling, getting fair value for your logs, minimizing your liability, what a consulting forester can offer you, selecting a logger, and much more. Cost: $40/person before 10/15; $50/person 10/15-10/26. Cost includes Friday dinner and Saturday lunch. Registration closes 10/26; no walk-in registrations. Register online with a credit card: https://tinyurl.com/sellinglogsymposium. For more information contact Jean Bremer, 503-655-8631 or jean.bremer@oregonstate.edu.
This year’s fires in eastern and southern Oregon, and especially California remind us that fire does not occur only in remote forest areas. It is common in rural areas, can affect farm lands, communities along the wildland-urban fringe, and can even cross the boundary into densely developed communities.

The scale and intensity of fires across the west are increasing for many reasons including historic land management and fire exclusion policies, development patterns and recent climate patterns resulting in many consecutive years of intense droughts. It is important for people in western Oregon to realize that we too live in a fire landscape, even though it is not as common as elsewhere in the state.

It is now late September, and the smoky, hazy skies of summer have passed, for the most part. But fires raged across the West this summer, including several parts of the state threatening homes, shutting down roads, closing businesses, triggering evacuations, and affecting air quality and human health. There are certainly some lessons to be found in this. The memory of smoke is in the air adds some urgency. Here are three things to think about:

- Smoke has not been uncommon in the Valley and can be a significant health factor, even when from distant fires. Find more about fires and your health at the [AirNow webpage](http://airnow.gov).
- Evacuation Readiness should be on everyone’s mind. Even though it seems unlikely to many here in the valley, it needs to be thought of and planned for. As the last two years have demonstrated in California, an urban address does not guarantee safety. Yes, we’ve [*posted on preparedness before*](http://blogs.oregonstate.edu/treetopics), because it matters.
- The final thing I’d encourage you to do is to commit to some long term actions to prevent and prepare for wildfire. There are many steps you can take to help keep your home and family safe in a fire-prone environment (which this is for several months each summer).

There are many resources to help you learn about fires and your health, make an evacuation plan and identify actions you can take to make your home and neighborhood safer from fire. But where to start? We have collected information to help you address each of these things at the [Forestry & Natural Resources Extension Fire Program website](http://blogs.oregonstate.edu/treetopics). Explore the Fire Adapted communities tab at the top of the page.

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*Answers to Tree Trivia***

Fire-damaged trees south of The Dalles, Oregon, 2018. Photo by Glenn Ahrens

From most to least widespread (approximately) in Oregon: Grand fir (*Abies grandis*), California red fir (*A. magnifica*), noble fir (*A. procera*), subalpine fir (*A. lasiocarpa*), Pacific silver fir (*A. amabilis*), white fir (*A. concolor*).
I've been taking part in an OSU Extension program called Oregon Season Tracker (OST) for about five years. OST is a citizen science program where volunteers keep track of rainfall and plant phenology (seasonal growth patterns) and submit their records to national databases. At our office in St. Helens, we have an approved rain gauge which we try to check each morning, and a phenology “garden” consisting of two large Douglas-fir trees and some native shrubs.

When I first got involved in OST, my motivation was that I thought that having some consistent record of weather and phenology patterns would ultimately be useful in my work in Forestry & Natural Resources Extension. I wasn’t quite sure exactly how it would be useful. But I figured that since weather affects trees in many ways, something would come of it; and even if not, I would be helping scientists with THEIR research questions.

Recently I put my data to use when a puzzling Douglas-fir sample came into the office. None of us had ever seen anything quite like it. The current-year needles were stunted, curled, and dried out at the tips (see photo). It sort of resembled light herbicide damage, but the landowner affirmed that no spraying had been done around these trees. Only a few of the landowner’s many trees were affected; but of the ones that were, the symptoms were present all over the tree, on the current-year needles only.

The next thing we considered was freeze damage; but this spring was nowhere near freezing around here. Drought? The symptoms aren’t quite consistent with what we usually see in conifers from drought stress.

But the needles really did look scorched, so maybe intense heat was the culprit. Could they have been damaged when they were soft, shortly after budbreak? I went back and looked at the phenology data that I recorded for the two Douglas-fir trees at our office. This spring, the last “NO” I recorded for budbreak was on April 27th, and the first “YES” was May 10th, so budbreak on our two trees actually would have occurred sometime in that two-week window. While there's variation among trees of the same species, it's probably safe to assume that the landowner’s trees also broke bud somewhere in that time frame, or perhaps a day or so on either side, since his location is close by.

Now for the heat. We had an early heat spell in May, but exactly when was it? For this, I needed to look up temperature records, so I went to the Oregon Climate Service website, which houses records weather station data from across the state (including from OST volunteers!). The nearest station with daily temperature data was ten miles away, at the Scappoose Airport. On May 13 and 14, there was a high of 88 degrees, which ties the record high for those dates. While that’s not considered extreme heat, it certainly is extreme for that time of year. And it happened very soon after Douglas-fir trees had broken their buds.

So my theory? The few trees that looked scorched were among the budbreak “stragglers” – that is they were among the last to break bud, and probably did so less than a week before that hot weather. That’s why they were the only trees that were damaged – because their needles were still very young and tender.

My theory can’t be proven, but it sure was cool to have the phenology records to back it up in this “sick tree” case. Incidentally, of the three years I’ve observed these trees, budbreak has occurred right around the same date. It will be interesting to see whether they are that consistent every year going forward.

To get involved in OST, have a look at the program website: http://oregonseasontracker.forestry.oregonstate.edu/
Drones are becoming more popular to use in forestry. With recent innovations, small landowners are beginning to gain more affordable access to this useful new technology. I spoke to Cory Garms, a PhD student at Oregon State University, about what small acreage landowners might want to know about using drones to survey their own property.

**What is a drone?**

The terms drone and UAV (unmanned aerial vehicle) are used interchangeably to describe remote-controlled aircraft platforms which vary from the size of a hummingbird to that of passenger planes and beyond. The two main types of UAVs are multirotor and fixed-wing, which have unique strengths and weaknesses for flight much like helicopters and airplanes. The term UAS (unmanned aerial system) refers to an aircraft (UAV) in addition to the positioning hardware and sensor payload which enable the aircraft to orient itself and collect data, respectively. The applications of this technology are seemingly endless, but at OSU I use them to carry specialized cameras in order to monitor forests and agricultural crops.

**What are some common uses for drones in forestry today?**

The uses are already quite diverse and they will continue to grow. Initially, I think foresters were pleased to use them to make high resolution aerial maps of their forests for a fraction of the cost of hiring an airplane pilot. With the advent of sufficiently small and light multispectral and thermal infrared sensors, the scope of data we can collect from UAS has grown from visual maps into “stress” maps which help make inferences about the relative health of individual trees. Another exciting technology, LiDAR, allows us to make remarkably accurate 3D reconstructions of forest scenes which can be used to measure tree dimensions with a high level of confidence. There is also a push to develop UAS for applying chemicals like herbicides and fertilizers.

**How might small acreage forest landowners use drones in their management planning?**

Small forest landowners have lots of reasons to get involved in drones. The most straightforward one is for silvicultural planning using aerial maps. With a little familiarity they would be able to make scaled maps of their land that include tree height and spacing data that are extremely useful when choosing when to thin and when to cut. At a small scale, single tree selection would probably be less costly and definitely be much faster using UAS. The necessary hardware for this level of analysis cost under $2K. Another option is attaching a more expensive ($5-10K) multispectral sensor, which could allow the landowner to visualize the “stress responses” of individual trees. This gives researchers the ability to make inferences about drought, disease, and nutrient deficiencies. In a broad sense, this will likely become a vital early detection tool for foresters.

Additional uses to carry out your management plan (added by Lauren):

- **Aerial image of a recent timber harvest captured by a drone. Photo courtesy Patrick Sherman, Roswell Flight Test Crew**
Drones in Smaller Acreage Woodlands [continued]

- Streamline monitoring – if you have a large forest or don’t get out to all the corners often, you could use your drone to monitor for extensive storm damage such as windthrow, look for health and disease issues (i.e. drought or root rot), or do a post operation assessment (is slash piling necessary?).

- Document actions – record keeping for your management plan just got more exciting! Get before and after photos of a recent thinning or harvest, newly built roads, added ponds, or restoration of an oak woodland.

- Reduce your risk to wildfire – Identify areas that have high fuel loads and monitor areas where you have done some fuels reduction to stay on top of maintenance.

What are the benefits to small acreage forest landowners in hiring a professional consultant that uses drone technology?

The first step to implementing drones on your forest needs to be learning about them. Hiring a professional would, at the very least, give a landowner the ability to see how flight operations work and begin looking at the products we are capable of creating with these tools. My personal outlook is that small forest managers, like small farmers, are “do-it-yourselfers” who would ultimately like to own and operate their own equipment. Some of the best companies are willing to educate clients and teach them to collect the data themselves. This framework allows the landowner to spend a little more on quality data analytics software to help them make decisions based on their imagery.

What are some of the regulations that small landowners need to be aware of when using drone technology?

The most important thing that people should be aware of is the FAA’s small UAS rule (14 CFR part 107), which establishes the requirements for registration as a certified remote pilot in the United States. The certification exam covers some of the same information about aeronautical charts and weather reports that you would find on a small aircraft pilot exam, as well as the rules that deal specifically with small UAS. Legally, it is only necessary to have the part 107 license if you use UAS commercially, but I recommend it for a couple of reasons. First, studying for it will make someone a better pilot regardless of how experienced they are. The study materials are useful in the field and the certification process is a good way to start thinking of the drones as aircraft rather than as toys. Second, the exam itself has only been around since January 2017, and since the guidelines say you must recertify every 2 years, no one has had to do it yet. Basically, I expect that now is the best time to get the license because it will not get any cheaper (now $150) nor any easier down the road. I would, at the very least, make sure that any pilot I hired held a current part 107 license. Visit the FAA’s website for more information about how to certify.

How are drones being used in forestry research?

In a relatively short time, drones have made a large footprint in the forest research community. There are studies that deal with all kinds of things: chemical application, pest and disease detection, tree counts, size measurements, fire studies, species ID, drought detection, invasive species management, planting, and more. The Unmanned Aerial Systems lab at OSU have been involved in a wide breath of projects also, including Swiss Needle Cast disease detection, Southwestern White Pine drought tolerance, Using LiDAR to estimate forest inventory, Tree Height Estimations, Herbicide Efficacy Estimation, and others. Personally, I am interested in how we can use multispectral and thermal sensors to decide when plants need water, not only in forestry but in agriculture as well.

What should small landowners consider before purchasing a drone?

Because there are so many options, I would say first decide on a budget, then use that as a guide. If you just want to make maps of forest stands, that could be accomplished relatively inexpensively, whereas making precise tree measurements or any sort of health estimates typically requires more expensive hardware. Also, remember that the quality of these machines is rising rapidly as their cost is falling, so it will be cheaper to achieve the same results in years to come.

For more information:

Unmanned Aerial Vehicles (Drones): How they operate and their potential for improving your forest and rangeland management (EM9190). [https://catalog.extension.oregonstate.edu/em9190](https://catalog.extension.oregonstate.edu/em9190)

FAA Unmanned Aircraft Systems: [https://www.faa.gov/uas/](https://www.faa.gov/uas/)

*Cory Garms just finished his second year as a PhD student at Oregon State University. His PhD research focus is in forest biometrics.*
Bough Production Tips

It is the time of year when bough collectors are busy cutting evergreen boughs to sell to floral warehouses and wreath companies. While some landowners regularly sell boughs from their property, for those who have not, getting into the business may seem mysterious. Little information is widely available about pricing, specifications, locating buyers, and so forth.

Bough collectors may sometimes approach woodland owners about cutting boughs from their trees. Owners of overgrown Christmas trees that otherwise may not be worth much may be particularly interested in this opportunity. But it may seem unsettling if you are approached by an unknown bough collector and do not know whether they are trustworthy. A recent query I received about selling boughs prompted me to find out some basics from those who have more contacts in industry. Below is a summary of feedback that I received.

A landowner can expect to be paid around 15 to 20 cents per pound for their raw material, where the collector does all the work of cutting and hauling. The bough collector will in turn sell the material to a wholesaler for around 35 to 40 cents. This is for noble fir, the most common material. Other species such as incense-cedar or Port-Orford-cedar may command higher prices.

Some rules of thumb: ask for references; make sure their employees are insured; and draw up a simple contract stipulating the payment, condition the trees are to be left in, and condition of the property (e.g. no trash left behind or damage to the ground). It’s a good idea to be present while the harvesting is taking place, and have the material weighed in front of you.

If you would like your trees to regenerate new bough material, it’s important for them to be cut properly. Trees should not be stripped nearly to the top, leaving very little foliage to regenerate. Boughs should also be cut far enough away from the trunk such that there are remaining side branches with viable buds to grow back. The limb diameter at the cut end should be no thicker than a thumb.

You also have the option to do the labor yourself and market your boughs directly, which eliminates the middleman and brings higher prices. The Oregon Woodland Cooperative has been successfully organizing its members to do precisely this for a number of years. With a group of woodland owners to fill orders, they have more marketing power and product consistency. If this interests you, consider contacting the OWC to learn more. Their website is https://www.oregonwoodlandcooperative.com/.

A short fact sheet on producing boughs is available online: http://www.ntfpinfo.us/docs/ifcae/Buttolph2012-FactsheetFirBoughsv112412.pdf

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**TREE TRIVIA**

Oregon has six species of native true firs (genus *Abies*). Can you name them?

Answers on page 3.
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