

Forest Forum Washington County Small Woodlands Association

December, 2020

Drought in the Forest: The Past, and a Complicated Future

The past decade has been characterized by the prevalence of drought. Since 2000, the longest duration of drought in Oregon lasted 270 weeks beginning on December 27, 2011 and ending on February 21, 2017. The most intense period of drought occurred the week of November 11, 2003 where drought affected 8.34% of Oregon land. It was a dry year across northwest Oregon in 2019 and 2020, and that likely contributed to the rise of Oregon's historic wildfires, meteorologists said.

Colby Neuman with the National Weather Service in Portland noted that much of the water year deficit was accrued by a very dry November and December of 2019. He also noted that Oregon had a fairly wet May and June. The problem, he said, was that not a drop of rain fell in July and August. "We were basically dry the entire months of July and August — two straight months with nothing," he said. "That really causes things to dry out to the point that by early September fuels were at record levels for dryness. They'd never been that dry at that point in September, and then the east wind event comes and pushed it (the fires) over the top."

Drought is endemic to the American West along with heatwaves and intense wildfires. But scientists are only beginning to understand how the effects of multiple droughts can compound to affect forests differently than a single drought alone. UC Santa Barbara forest ecologist Anna Trugman -- along with her colleagues at the University of Utah, Stanford University and the U.S. Forest Service -- investigated the effects of repeated, extreme droughts on various types of forests across the globe. They found that a variety of factors can increase and decrease a forest's resilience to subsequent droughts. However, the study, published in Nature Climate Change, concluded that successive droughts are generally increasingly detrimental to forests, even when each drought was no more extreme than the initial one. Droughts usually leave individual trees more vulnerable to subsequent droughts. "Compounding extreme events can be really stressful on forests and trees," said Trugman, an assistant professor in the Department of Geography.

"In terms of damage you need to not only think about it at the individual level, but at the forest level as well," said Trugman. So, although trees will need time to recover from an extreme drought, surviving trees will face less competition for water resources than they had before. This could leave them in a better situation if drought returns to the area. What's more, natural selection will drive the forest as a whole to transition toward more resilient individuals, or even to more drought tolerant species overall. Repeated droughts affect forest pests and pathogens as well, and their response to these conditions will also influence how forests behave. Scientists are still working to untangle the conditions under which each of these factors rises to the top.

January 27th WCSWA Monthly Zoom Meeting:

Drs. **Daniel Leavell** (State Fire Specialist) and **John Bailey** (Professor of Silviculture and Fire Management) will briefly review the 2020 fire season and what we learned from it, as well as previous years' wildfires. Then, they will address what woodland owners could do moving forward to minimize risk to their property, and will be available for questions. 7 p.m., (Zoom info in January Forum).

WCSWA Leadership President – Vic Herinckx, 503-645-9434 Vice-President – Barrett Brown, 503-647-6499 Secretary-Treasurer – Bob Shumaker; 503-324-7825

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EMAIL FOR ANYONE ON THIS PAGE: washcosmallwoodlandsassoc@gmail.com

The Tree Farm Tradin' Post

A free service to our members: List tree farm items/land to buy, sell, or trade. Contact Tom Nygren, 503-628-5472. Got a tool or piece of equipment you don't need any more? Or maybe you are looking for tools, equipment, property, or materials? You can place a free advertisement in Forest Forum. (3 month limit)

For Sale: No New Items

Wanted: No New Items

Event Calendar

Fall Tree School Online		Outline of Programs	See page 7 or go to www.knowyourforest.org/TreeSchoolOnline
December		No meeting scheduled	
January	27	2020 Fires: What Have We Learned?	7:00 p.m. Zoom meeting. Drs. Daniel Leavell and John Bailey, Oregon State
February	TBD	TBD	TBD

WCSWA Website

www.wcswa.com Website Manager: Michael Morgan Contact Tom Nygren or Bonnie Shumaker for web postings and information. Facebook: https://www.facebook.com/WashingtonCountySmall WoodlandsAssociation

Forest Forum Newsletter Editors: Tom Nygren & Bonnie Shumaker 503-628-5472 and 503-324-7825 Proofreaders: Bonnie Shumaker, Dan Hundley, Tom Nygren, Ardis Schroeder

Leadership Notes

Vic Herinckx

Hello everyone,

Hope you are well and continuing to feel connected to WCSWA through this newsletter and our monthly online program meetings. The program committee has been busy planning meetings which will be held January through May next year and they will continue to be Zoom meetings until it is safe to meet in person.

The November program meeting started with a brief annual meeting which had 2 agenda items – a technical by-laws change and officer elections. Both were approved unanimously. The bylaws change simply added "or virtually" in the sentence below:

QUORUM. Those members present in person *or virtually* shall constitute a quorum for the transaction of business at any regularly called meeting of the membership.

The officer and board elections were for the following:

- Board Position #5: Cathy Dummer
- Board Position #6: Kent Grewe
- President: Vic Herinckx
- Vice-President: Barrett Brown
- Treasurer: Bob Shumaker

Thanks to all who volunteered or considered volunteering for these positions and all of the volunteers that make our chapter's events and fundraisers successful.

The November meeting on Carbon was well done and I'm certain everyone that participated learned a few things. I had no idea that soil is a bigger store of carbon than what's found in the atmosphere or plant life.

l've been helping the carbon cause in the tiniest way by shifting some of my energy to selling fir poles instead of firewood. There seems to be a small niche market on craigslist for 8/10/12' unpeeled poles mostly in the 5 – 7" diameter range. I've been doing some small scale thinning on the Nygren property targeting 7" and smaller DBH trees that are about 80' tall. I find the LogRite Junior Arch works very well



for this task, equally capable of lifting and moving the butt of that size tree as well as wheeling the 8/10/12' logs to the landing (my trailer in this case). These logs have made their way into pasture fencing, horse jumps, decking and other structures. Here's a picture one of the buyers sent me of some logs they debarked and assembled to keep their trailer covered through the winter. I suspect harvesting and delivering the logs was much easier than putting up this structure!

Until next time, Happy Holidays and continue to stay safe!

Advertising Opportunity: The Forest Forum is a monthly newsletter sent out to over 300 members and friends of WCSWA. Advertisers receive free newsletters for the duration of their ads. ADVERTISING RATES (PRICE INCLUDES TYPESETTING & AD PREP)

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Please send this form, ad copy, logos, photos, etc. to: Bob Shumaker, 52490 NW Cedar Canyon Road, Banks, OR 97106 Thank you for supporting <u>Washington County Small</u> <u>Woodlands Association!</u>



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	issue	issues	issues
1/12	\$20	\$40	\$100
page			
1/6 page	30	60	150
¼ page	40	80	200
1/3 page	50	100	250
1/2 page	75	150	375
2/3 page	100	200	500
Full	150	300	750
page			



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Find it at KnowYourForest.org

All the resources and assistance to manage your forestlands are in one easy to access location that is regularly updated.

- Search by County for local resources
- Find educational materials in the Learning Library
- Refer to forest practice laws
- Register for classes



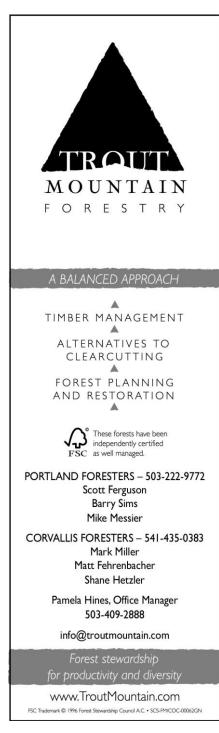
Soil Fungi Act As a Support Network for Trees

Being highly connected to a strong social network has its benefits. Now a new University of Alberta study is showing the same goes for trees, thanks to their underground neighbors. The study shows that the growth of adult trees is linked to their participation in fungal networks living in the forest soil.

Though past research has focused on seedlings, these findings give new insight into the value of fungal networks to older trees -- which are more environmentally beneficial for functions like capturing carbon and stabilizing soil erosion. "Large trees make up the bulk of the forest, so they drive what the forest is doing," said researcher Joseph Birch, who led the study for his PhD thesis in the Faculty of Agricultural, Life & Environmental Sciences. When they colonize the roots of a tree, fungal networks act as a sort of highway, allowing water, nutrients and even the compounds that send defense signals against insect attacks to flow back and forth among the trees. The network also helps nutrients flow to resource-limited trees "like family units that support one another in times of stress," Birch noted. Cores taken from 350 Douglas firs in British Columbia showed that annual tree ring growth was related to the extent of fungal connections a tree had with other trees. "They had much higher growth than trees that had only a few connections." The research also showed that trees with more connections to many unique fungi had much greater growth than those with only one or two connections.

"We found that the more connected an adult tree is, the more it has significant growth advantages, which means the network could really influence large-scale important interactions in the forest, like carbon storage. If you have this network that is helping trees grow faster, that helps sequester more carbon year after year." It's also possible that if the trees grow faster, they'd have some ability to better survive drought that is expected to intensify with climate change, he added. "These networks may help them grow more steadily even as conditions become more stressful, and could even help buffer trees against death."

Weyerhaeuser Agrees To Timberland Swap with Hancock Natural Resource Group Weyerhaeuser Company has agreed to two land transfer deals with the Hancock Natural Resource Group. The agreement, expected to close by the end of 2020, involves the purchase of 85,000 acres of midcoastal Oregon timberland from Hancock, and the sale of 149,000 acres of southern Oregon timberland to Hancock. The net cost of these two transactions is 40 million dollars in cash. Partnering with small and industrial forestland owners for more than 75 years. We buy logs, standing timber & timberland in NW Oregon & SW Washington. OUR FORESTERS/LOG BUYERS "These two agreements represent a unique opportunity to further enhance Weyerhaeuser's JEFF CLEVENGER DAVE KUNERT **TYLER ROBBINS** Western timberlands portfolio with exceptional land 503-365-8400 office 503-815-6321 office 503-324-2681 office that is contiguous with our existing ownership" says 503-931-7651 cell 503-931-3143 cell 503-728-8192 cell Devin Stockfish, president and CEO. "Through these WILLAMINA Tillamook BANKS 1000 Willamina Creek Rd. 3111 Third St. 13662 NW Commerce St. two transactions we are acquiring highly productive Tillamook, OR 97141 Banks, OR 97106 Willamina, OR 97396 timberland with low operating cost and strong access Desired Species: Douglas fir Desired Species: White woo Desired species: Douglas fi to key domestic and export markets, and we expect Warrenton 550 NE Skipanon Dr them to deliver immediate and long-term value for our Warrneton, OR 97146 **Desired Species:** stockholders." Douglas fir & White woods Weyerhaeuser, one of the largest private owners of timberland, was established in 1910, and owns or controls more than 11 million acres of timberland in the United States, and manages additional timberland under long-term leases in Canada. Land Surveying/Planning/Engineering/Water Rights/Forestry TEL 503-357-5717 Stuntzner FAX 503-357-5698 2318-B Pacific Ave. Engineering Forest Grove, OR 97116 & Forestry, LLC www.ForestSeedlingNetwork.com Bob McNitt, Forester Serving small timberland owners in Oregon since 1968 1740 Shaff Rd. #306 bob@forestseedlingnetwork.com Timber Sale Management – Timber Cruising and Appraisal 503-769-9806 Stayton, OR 97383 Land Use Planning For Rural Parcels Interactive website that connects forest landowners with seedling growers, forest management vendors & other technical assistance resources |33**|**3 INCORPORATED North Plains & Longview WANTED: Land & Timber, standing timber and pulp logs Rob Vance - (360) 355-2817 Paul Hadaller - (360) 431-9661





• Oregon State University Extension is continuing to work with the Partnership for Forestry Education to continue the Tree School Online webinar series to our Oregon forestry community.

• December 15, 3:00 p.m.

Managing Your Forest with Fire in Mind

Brad Withrow-Robinson, OSU Extension, Glenn Ahrens, OSU Extension

Sign up for any of these classes which include FREE

Registration and Webinar description at

www.knowyourforest.org/TreeSchoolOnline

Can't view a seminar live? They are recorded and available at the above website.

"Drone Patrol" Monitors Forest Environmental and Ecological Changes

Sensors for forest monitoring are already used to track changes in temperature, humidity and light, as well as the movements of animals and insects through their habitat. They also help to detect and monitor forest fires and can provide valuable data on how climate change and other human activities are impacting the natural world.

However, placing these sensors can prove difficult in large, tall forests, and climbing trees to place them poses its own risks. Now, researchers at Imperial College London's Aerial Robotics Laboratory have developed drones that can shoot sensor-containing darts onto trees several meters away in cluttered environments like forests. The drones can also place sensors through contact or by perching on tree branches. The researchers hope the drones will be used in future to create networks of sensors to boost data on forest ecosystems, and to track hard-to-navigate biomes like the Amazon rainforest. Lead researcher Professor Mirko Kovac, director of the

Aerial Robotics Lab from the Department of Aeronautics at Imperial said: "Monitoring forest ecosystems can be difficult, but our drones could deploy whole networks of sensors to boost the amount and precision of environmental and ecological data. "I like to think of them as artificial forest inhabitants who will soon watch over the ecosystem and provide the data we need to protect the environment."

"Land, then, is not merely soil. It is a fountain of energy flowing through a circuit of soils, plants, and animals. The circuit is not closed... but it is a sustained circuit, like a slowly augmented revolving fund of life."

Aldo Leopold



If You Missed It – A Story Map of Local Tree Farm Work

Brandy Saffell, Conservation Specialist-Forest Program for Tualatin Soil and Water Conservation District (TSWCD), presented a Zoom program on October 28th about working with woodland owners and program partners to implement Tualatin SWCD's forest conservation objectives throughout Washington County. Brandy used an effective technology called "ArcGis Story Map", showing maps, text and video, to show us work done on two different tree farms.

By popular demand, Brandy has given us the link to view the Story Map – it's worth a second look even if you saw it the first time! Here is the link to the StoryMap: <u>https://arcg.is/11euW9</u>

US researchers produce "windows of tomorrow" out of transparent wood

Could looking through trees be the view to a greener future? Trees replacing the clear pane glass in your windows is not a work of science fiction. It's happening now.

The piece of glass in this photo was made from wood. Research work at the Forest Products Lab on using wood to create transparent windows is making great strides.

Forest Products Laboratory (FPL) researchers, in collaboration with colleagues from the University of Maryland and University of Colorado, have developed a transparent wood material that may be the window of tomorrow. Researchers found that transparent wood has the potential to outperform glass currently used in construction in nearly every way.



⁽U.S. Forest Service photo)

While glass is the most common material used in window construction it comes with a costly economic and ecological price.

Heat easily transfers through glass, especially single pane, and amounts to higher energy bills when it escapes during cold weather and pours in when it's warm. Glass production in construction also comes with a heavy carbon footprint. Manufacturing emissions are approximately 25,000 metric tons per year.

Now, transparent wood is emerging as one of the most promising materials of the future.

Transparent wood is created when wood from the fast-growing, low-density balsa tree is treated to a room temperature, oxidizing bath that bleaches it of nearly all visibility. The wood is then penetrated with a synthetic polymer called polyvinyl alcohol (PVA), creating a product that is virtually transparent.

The natural cellulose in its wood structure and energy-absorbing polymer filler in transparent wood means that it is far more durable and lighter than glass. It can withstand much stronger impacts than glass and, unlike glass, it bends or splinters instead of shattering.

Switching to transparent wood could prove to be cost efficient as well. It is approximately five times more thermally efficient than glass, cutting energy costs. It is made from a sustainable, renewable resource with low carbon emissions. It's also compatible with existing industrial processing equipment, making the transition into manufacturing an easy prospect.

With all of these potential benefits for consumers, manufacturing and the environment, the case for transparent wood couldn't be...clearer.

Source: Global Construction Review website, Chartered Institute of Building, November, 2020; Information and photos from Forest Products Laboratory, U.S. Forest Service

Forestry, Conservation, Environmental, and Business CEOs Establish Common Ground on the Role of Private Working Forests as a Natural Climate Solution

Today, forests in the U.S. offset 15% of the country's industrial carbon emissions. Carbon sequestration in sustainably managed private forest lands and carbon storage in forest products can provide a natural solution to climate change while also providing a wide variety of additional benefits like clean air and water, wildlife habitat, and good paying jobs.

The principles are signed by the CEOs of American Forests, American Forest Foundation, Environmental Defense Fund, National Alliance of Forest Owners, The Nature Conservancy, and the CEOs of 43 forestry businesses representing over 46 million acres of working forests across the United States.

The executives are united in a common vision: to harness the power of the private forest sector to address climate change, we must engage forest owners of all sizes, support strong rural economies, and ensure sustainable, science-based practices.

The policy principles encourage incentive and market-based approaches to increase the carbon benefits of working forests and forest products. They recognize the important role that private sector participation, investment, and partnerships can play in expanding carbon benefits from the forest sector. The principles underscore the importance of safeguards that promote positive outcomes for forests and the climate, healthy markets for forest products, and investments needed to strengthen rural communities. They also emphasize need for robust science, data and life cycle analysis to guide policy. The principles provide a common starting place for signing CEOs, and their respective organizations, to engage policymakers, business leaders in other sectors, investors, shareholders, and other stakeholders in discussions about climate solutions available through forestry and wood products.

Private Working Forests as a Natural Climate Solution

Climate change poses a significant challenge to our environment, our economy and our communities. Carbon sequestration in sustainably managed private forest lands and carbon storage in forest products can provide a natural solution to climate change while also providing a wide variety of additional benefits like clean air and water, wildlife habitat, and good paying jobs.

Forest owners and forest products manufacturers are well positioned to optimize the carbon potential of the private working forest value chain through sustainable forest management and the manufacture of sustainable forest products. Forest owners and managers should be empowered with the tools they need to increase overall forest carbon sequestration using sustainable forest management practices and technologies, and site-appropriate reforestation. Healthy, sustainable forest products they produce. For example, solid wood construction at scale using new engineered wood technologies, like mass timber produced from sustainably managed forests, presents a significant opportunity to store carbon and reduce energy consumption and related carbon emissions in the built environment.

Private forests are under increasing threat from uncharacteristic wildfire, pests and disease, drought and extreme weather events that can cause significant carbon releases and other environmental damage. In many private forests, addressing these threats requires sustainable management such as thinning, prescribed fire, and other forest management techniques that bolster forest health and resilience.

Public policies should include market and incentive-based approaches that help capture the potential of private forests and forest products to sequester more carbon, while ensuring sustainable forest management to maintain and improve forest health and resilience, boost private sector investment in rural communities, and help keep forests as forests.

Policy is strengthened through advances in science, technologies, techniques, and practices to improve forest carbon inventories and provide better information to landowners, forest managers and the public regarding the contribution and management of forests and forest products for climate mitigation. Such advances also support forest practices that benefit the environment and forest economies.

Maintaining sustainable private working forests at scale to benefit the climate requires investing in the jobs, businesses, and infrastructure necessary to support a strong forest economy. Such investments must help sustain markets that increase the carbon mitigation benefits of forest and wood products, provide additional environmental benefits, and strengthen rural communities.

Leadership and innovation in the private sector play an important role in advancing and informing public policy. Throughout the economy, businesses are seeking natural climate solutions to reduce their carbon footprints. A growing number of partnerships between private companies, the forest sector, and environmental and conservation organizations are driving investment in the significant carbon potential of sustainably managed forests and forest products. The insights and experience gained from such early action provides an important basis for effective policy.

Policy Principles

These leaders of the environmental, conservation and forest business communities recognize that private working forests and forest products can play an important role in mitigating climate change. The following principles outline their shared vision for increasing the contribution of forests and forest products to climate mitigation.

- Policies should include incentives and market-based mechanisms and should be designed to be accessible and credible to maintain working forests, increase carbon benefits across the working forest value chain, and encourage broad participation from forest owners, forest products manufacturers and potential investors.
- Public funding should be directed to improve forest carbon science and data collection and incentivize the development of new technologies, techniques, and practices to improve forest carbon inventories and life cycle analyses for forest products.
- Increased public funding and policies should focus on innovative approaches to increase carbon benefits in and from forests and improve the scalability and outcomes of USDA private forest conservation programs, such as the Forest Legacy Program, State and Private Forest Grant Programs, the Healthy Forests Reserve Program.
- Policies should encourage, recognize, and reward private sector partnerships that advance the carbon potential of sustainably managed forests and forest products at scale.
- Policies should help spur investments in the rural jobs, businesses, and infrastructure necessary to support a strong forest economy.
- Policies to reward the carbon benefits of forest products, such as mass timber and other advanced building materials, must be based on scientifically sound life cycle analysis and include safeguards to promote positive outcomes for forests and the climate.
- Policies should support updating building and architectural codes to reflect the carbon benefits of advanced wood construction.
- Public funding should be invested in training programs for architects, builders, and other professionals who make important decisions about building materials and their sourcing.
- Policies should ensure sustainability through practices such as forest certification, use of best management practices and other approaches that support clean air and water, wildlife habitat, the conservation of ecologically sensitive areas, and other environmental benefits.

November 12, 2020 **Source:** National Alliance of Forest Owners

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COUNTY CHAPTER OF THE OREGON SMALL WOODLANDS ASSOCIATION

Potpourri

New Members: Welcome to *Rick Zenn* of Portland, *Vicki Ballou* of Vancouver, and *Bryce and Angela Schroeder* of Beaverton. We are here to help members achieve their management goals. To get the most out of your membership, come to the meetings and tours that are scheduled throughout the year. You'll find many kindred spirits among our diverse membership – and many opportunities to learn and share together! If you have any questions or need help, contact any of the Directors, Officers, or Newsletter Editors listed on page 2 of this newsletter.

Do you have a copy of the updated Third Edition of the OFRI publication *Oregon's Forest Protection Laws*? Every forest land owner should have a copy! Get a free (shipping free) copy from <u>https://oregonforests.org/node/549</u>

OSU Extension has published 3 pamphlets to help family forest owners find or hire professionals including:

- Finding the right accountant/preparer <u>https://catalog.extension.oregonstate/edu/em9169</u>
- Choosing the right logging contractor <u>https://catalog.extension.oregonstate/edu/em9170</u>
- Choosing the right chemical applicator <u>https://catalog.extension.oregonstate/edu/em9171</u>

Helpful Links:

- <u>http://blogs.oregonstate.edu/treetopics</u> read OSU Extension's "Tree Topics" blog
- <u>www.oregonwoodlandcooperative.com</u> learn about the Oregon Woodland Cooperative
- <u>https://www.facebook.com/WashingtonCountySmallWoodlandsAssociation</u>
- For E-Notification: : https://ferns.odf.state.or.us/E-Notification or visit an ODF Office