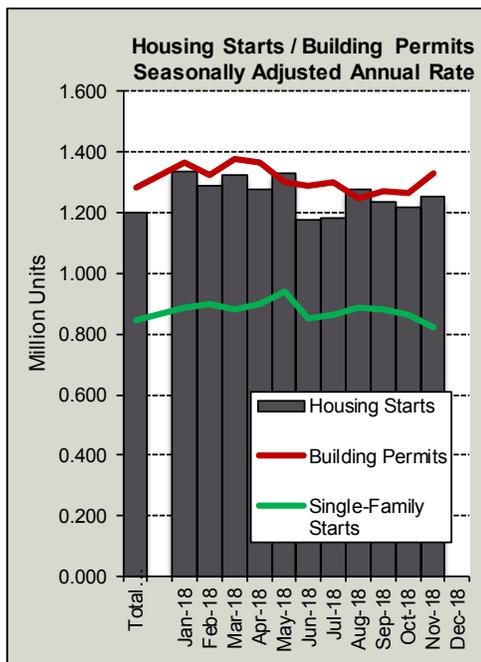


Happy New Year from Woodland Forest Management! 2018 was quite a year in the PNW forest industry, as log prices reached 20-year highs early in the year, and then dropped by as much as 35% by year-end. As 2019 gets started, prices have held, and logs are being bought at competitive rates. Currently, the main forest management activity is planting. If you don't have seedlings lined up by now, there may still be opportunities as nurseries pin down final orders with their customers and determine if there are extra seedlings available.

If you want to plan a timber harvest or other forest operation, please give me a call at (503) 654-2221 or send me an email at [bkeller@woodlandmgmt.com](mailto:bkeller@woodlandmgmt.com). In addition to timber harvests, Woodland offers a variety of services—including reforestation, timber cruising, management plans, competition control in plantations, forestland valuations, and road maintenance. - Brent



**MARKET WATCH: HOUSING, LUMBER AND LOGS**



**HOUSING STARTS**

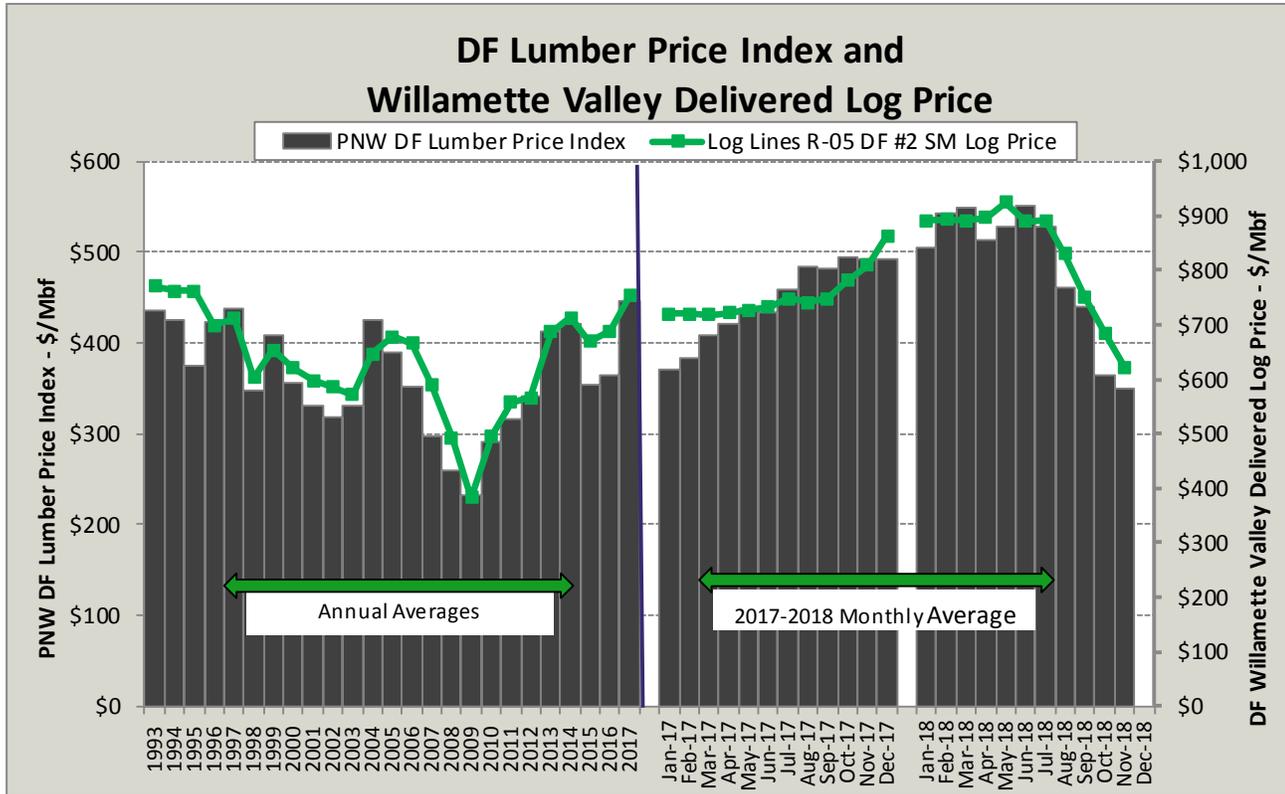
U.S. housing starts increased in November by 3.2% due to a jump in multi-family starts, but were 3.6% below November 2017. Building permits were up 5%<sup>1</sup> in November. Analysts warn of potential problems in the housing sector. (Wall Street Journal, 12/18/18)

	Nov 2018	Oct 2018	Monthly Difference	Nov 2017	Annual Difference
All Starts	1.256	1.217	3.2%	1.303	-3.6%
Single-Family Starts	0.824	0.864	-4.6%	0.948	-13.1%
Building Permits	1.328	1.265	5.0%	1.323	0.4%
Single-Family Building Permits	0.848	0.847	0.1%	0.864	-1.9%

Source: U.S. Census Bureau

<sup>1</sup> All housing statistics reported in seasonally adjusted annual rates (SAAR).

## LUMBER & LOGS



DF log and lumber prices continued to fall in November, as shown above. Lumber dropped to \$349.23/Mbf. At \$621/Mbf, log prices hit their lowest price since May 2015. The graph above suggests there still might be more to give. (Note that lumber and log prices are on different scales in the chart.)

- November DF #2S log prices, as reported by Log Lines, dropped \$65 to \$621/Mbf, which is 9.5% below the prior month, 23.3% below November 2017, and 11.6% below the 5-year average.
- At \$349/Mbf, the DF lumber index price for November dropped 4.3% from October 2018. Lumber is also 29.1% below November 2017, and 11.9% below the 5-year average.

### November 2018 Douglas-fir Prices:

	Nov 2018	Oct 2018	Change from Previous Month	Nov 2017	Change from Previous Year	5 Yr Annual Average	Current month compared to 5 Yr Annual Average
Logs	\$ 621	\$ 686	-9.5%	\$ 810	-23.3%	\$ 702	-11.6%
Lumber	\$ 349	\$ 365	-4.3%	\$ 493	-29.1%	\$ 397	-11.9%

Sources: Log Lines Willamette Valley DF #2S monthly average price & WWPA Pacific NW Coast Douglas-Fir monthly

## MARKET NEWS

### WWPA LUMBER TRACK REPORT

Data from the Western Wood Products Association shows that overall U.S. lumber production decreased by 14.9% in September over August. (WWPA reports lag a couple of months). U.S. consumption also declined by 13.9% in the same period. While the production levels are only slightly lower than September of last year, month-to-month reductions are significant when compared to August 2018:

- West Coast mills reduced production by 9.8% in September.
- Southern sawmills reduced production 18.6% in September.
- Canadian mills reduced production by 2.9% in September.

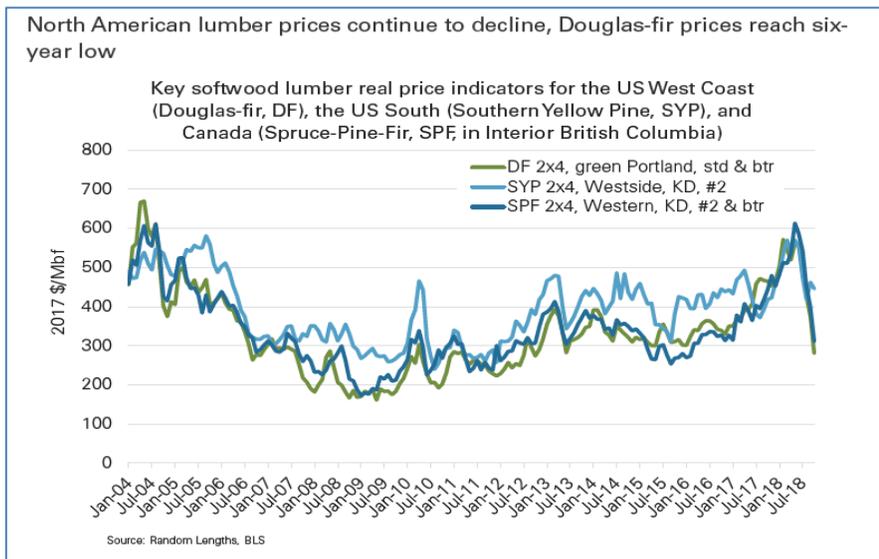
Averaged across the first nine months of the year, U.S. mill utilization is holding steady at 87%, an increase of two percentage points over 2017. Coastal mills reported 89% utilization over the first nine months of 2018, which is one percentage point lower than last year. (WWPA, 12/18/18) [Note: We generally believe mills begin to have pricing power when utilization exceeds 80%.] (WWPA, 12/13/18)

Lumber Production	Aug 2018	Jul 2018	Change from Previous Month	Jul 2017	Change from Previous Year
U.S. Lumber Production	3.17	2.91	9.0%	3.10	2.1%
U.S. Lumber Consumption	4.41	4.15	6.2%	4.10	7.5%
Western U.S. Lumber Production	1.28	1.17	9.2%	1.31	-2.0%
Southern U.S. Production	1.74	1.60	8.8%	1.65	5.4%
Canadian Production	2.30	2.19	5.0%	2.31	-0.5%

Mill Capacity	Jan - Jul 2018	Jan - Jun 2018	Change from Previous Month	Jan-Jul 2017	Change from Previous Year
U.S. Production as a % of Capacity	87%	87%	0.0%	85%	2.0%
Coast Production as a % of Capacity	88%	89%	-1.0%	90%	-2.0%

All volumes in Bbf; Source: WWPA Lumber Track and Western Lumber Facts



The chart to the left is from Campbell Global. It indicates that North American lumber prices have dropped in tandem with the rate of production, and have reached a 6-year low. (Campbell Global Timber Trends, October 2018)

## **FOREST IN THE FARM BILL**

The Farm Bill was signed by President Trump in December, after easily passing both houses of the U.S. Congress. It is an \$867 billion package that will affect agricultural land, forest land, wetlands, prairies, and more.

The Forestry section is meant to address the challenge of preventing wildfires. To that end, considerable funding will be allocated over the next five years to help remove insect-infested timber, thin timber stands, and conduct prescribed burns to remove the fuel that feeds massive wildfires.

Some other forest policies within the legislation are included below:

- Reauthorizing an existing tool that allows land managers to perform limited treatments on forests impacted by insects and disease. This tool would have otherwise expired.
- Expanding "Good Neighbor Authority" (GNA) to allow tribes and counties to partner with the Forest Service on forest management projects.
- Allowing states to retain revenues from their GNA projects to support additional work.
- Setting aside \$20 million annually to the Forest Service's Hazardous Fuels budget for state/federal cross boundary work through a grant program.
- Creating a framework for Forest Service cooperation with water providers, and allowing watershed work to proceed under one National Environmental Policy Act (NEPA) document.
- Creating one new "categorical exclusion" under NEPA for sage grouse and mule deer habitat work, and creating a pilot program to reduce hazardous fuels near utility rights of way.
- Authorizing research into and grant support for innovative wood products and tall wood buildings.

The Timber Innovation Act followed the Farm Bill and was also passed by both Houses of Congress. This legislation will incentivize investment through the National Forest Products Lab and American colleges and universities to conduct research and development of new wood technologies and new methods for the construction of wood buildings. (Think cross-laminated timber, mass plywood panels, nail laminated timber, etc.)

Oregon Senator, Greg Walden had mixed feelings about the final version of the Farm Bill because of the sections that were removed before being passed in the Senate. Walden reported, "What fell out was our effort that was passed in the House to allow us to go in and remove the burned dead trees while they still have value and plant a new forest...That whole recovery and restoration after a fire with expedited authorities, a lot of the process the Senate objected to that." (NBC, 12/11/18), (Peninsula Daily News, 12/11/18), (Healthy Forests, 12/19/18) (Fredericksburg.com), 12/20/18)

## **EXECUTIVE ORDER REGARDING FOREST MANAGEMENT**

In December, President Trump issued an Executive Order regarding management of federal forestland. In case you missed it, you can read it here: <https://www.whitehouse.gov/presidential-actions/eo-promoting-active-management-americas-forests-rangelands-federal-lands-improve-conditions-reduce-wildfire-risk/> (Press Release, 12/21/18)

## **OSU BID FOR THE ELLIOT WINS APPROVAL**

In November, the Oregon Land Board (Board) requested proposals from interested parties to purchase the 80,000-acre Elliott State Forest and keep the forest in public ownership. The Board received proposals from the Oregon State University College of Forestry (OSU); Coos County; the Confederated Tribes of Coos, the Lower Umpqua and Siuslaw Indians; the Oregon Department of Forestry; and the Raw Foundation.

After an uncharacteristically short review period, the Board selected to accept the offer from OSU, which intends to create one of the largest research forests in the U.S. The OSU plan would include a mix of uses, including active management, recreation, public access and conservation.

Last year, the Oregon Legislature approved \$100 million in bonds to partially compensate the Common School Fund while a new forest owner could be found. An additional \$121 million is still needed to compensate the Common School Fund for the appraised value of the Elliott State Forest. As with every applicant, OSU's path to finding the necessary \$121 million is very uncertain.

In a statement of support for the OSU proposal, Governor Brown said, "I do think we can move forward on this path and keep the forest for the benefit of Oregon school children. Probably in a different way — maybe less of a financial resource, and more of an educational resource for the next seven generations...This would be a unique opportunity for Oregon to lead the nation, if not the entire world." (*Associated Press*, 12/19/18 & *News-Review*, 12/21/18)

## **WA DNR PROJECTION FOR 2019.**

The Washington Department of Natural Resources sells about 500 MMbf of timber annually from state forest trust lands across the state. DNR's FY2018 average stumpage price was \$458/Mbf, a 32% bump over FY2017's \$346/Mbf. DNR had forecast \$370/Mbf for FY2019, but is now pulling back on that, based on recent market trends. DNR now projects \$340/Mbf going forward. (*DNR*, September 2018)

## **IS A TO Z THE FUTURE?**

Vaagen Brothers, a lumber company in Eastern Washington, recently completed preliminary work on the A to Z project on the Colville National Forest, resulting in a 54,000-acre forest restoration timber sale that the company purchased. The effort is unusual in that Vaagen contracted out all the NEPA work and sale prep work that the USFS would otherwise cover. Vaagen's rationale is that the USFS is underfunded and understaffed and unable to get ahead of forest restoration needs.

Vaagen invested \$4-5 million to bring the sale to market and hopes that federal returns can be plowed back into future sales. Preservationists sued, arguing conflict of interest, and the Court found in favor of the Government on all counts. Whether the A to Z becomes a wide-spread approach to federal forest restoration remains to be seen. (*Summary Judgement*, 10/12/18)

## **U.S. & CHINA TEMPORARILY SUSPEND NEW TARIFFS**

Tariffs between products traded between the U.S. and China were scheduled for an increase in the new year, until an agreement was reached in early December that resulted in a 90-day suspension of any new tariffs between the two countries.

That is good news for ports along the U.S. west coast who export goods to China. There was worry at the Port of Astoria that the log ship scheduled at the end of November would be their last for a long while. Log exporters reported that the Chinese currently charge 5% tariffs on Douglas-fir and hemlock logs, along with 10% on white woods. But if the 2019 tariff increases were to be enacted, the new tariffs might have been as high as 25%.

It is also good news for China. The trade conflict between China and the United States has diminished the value of the yuan this year, dropping more than 10% against the dollar between late March and the end of November. It has been reported that Chinese factories have responded to the U.S. imposed tariffs by reducing prices, using fewer workers and cutting investment, according to UBS Group AG. Perhaps 86% of Chinese companies affected by the tariffs have experienced a decline in orders. Some predict the 90-day truce is only a temporary respite, and put the probability of the agreement lasting through March at less than 15%. (*Daily Astorian*, 11/21/18), (*News-Review*, 12/5/18), (*Bloomberg*, 12/17/18), (*Thomson Reuters*, 12/18/18)

## **B.C. LUMBER STRUGGLING**

Log prices are high in B.C.; lumber prices are down in the U.S.; B.C. log supply is tight. Any one of these three events would stress the B.C. lumber market, but all three are currently plaguing the industry right now. This has led to a wave of B.C. sawmill curtailments and layoffs and a decline in log exports.

High lumber prices in the U.S. lessened the impact of the U.S. imposed tariffs on Canadian softwood lumber earlier in the year, but now prices have fallen to nearly half of what they were in May of 2018 and that is stressing the B.C. lumber industry. Nearly all of the major lumber suppliers in B.C. are cutting production in 4Q2018. (*Columbia Valley Pioneer*, 11/20/18), (*Prince George Citizen*, 11/21/18)

## **WEYERHAEUSER VS. U.S FISH AND WILDLIFE**

In what is being called a clear win for forest landowners, an 8-0 decision by the Supreme Court affirmed that there are limits to USFWS's ability to designate land as critical habitat under the Endangered Species Act (ESA). Specifically, the Supreme Court clarified that "habitat" must be present for Critical Habitat Designation. This, stemming from the assertion from Weyerhaeuser that the USFWS had overstepped its authority under the ESA by designating land that is currently uninhabited and inhospitable for the endangered dusky gopher frog as "critical habitat" for such frog populations. The court will now send the issue to the Fifth Circuit court to determine whether closed canopy timberlands can count as habitat for a species dependent on open canopy longleaf conditions.

The court also ruled that the USFWS's critical habitat designation is subject to judicial review. The Justices determined that the lower court "should have considered whether the government agency's balancing of the benefits and costs of the designation was flawed." The ESA authorizes USFWS to exclude an area from critical habitat designation if it determines that the political, social, economic or other benefits of such exclusion outweigh the benefits of designating the area as critical habitat. (*Forest Landowners Association*, 11/30/18), (*LA Times*, 11/27/18), (*JDSUPRA*, 12/4/18)

### WASHINGTON STATE LOOKS TO DOUBLE FIRE BUDGET IN 2019

Washington's Commissioner of Public Lands, Hilary Franz, seeks to double the state's wildfire fighting budget to \$55 million. If approved, it would be the state's largest firefighting budget in history. Franz reminded the governor that in 2018 the DNR responded to 1,700 wildfires, a year with the second most fires on record. The proposal looks to improve wildfire prevention and response. No word yet as to whether the budget will receive the approval of Governor Inslee. (*Tacoma Daily Index*, 12/3/18)

### FUTURISTIC FIRE PREVENTION AND DETECTION

Currently, most fires are reported by 911 calls, commercial flights, or fire lookout stations. These methods are spotty at best. However, NASA satellites orbiting the Earth scan nearly the entire planet once a day and can spot the thermal signature of a fire and relay the information in about 3 hours. This is just one example of how artificial intelligence (AI) can improve fire detection. Some researchers are using AI to monitor social media and identify crucial emergency situations and provide emergency responders with real-time information.

AI is also being used to research effective ways to prevent fires by identifying areas most at risk for wildfires. Two high school students have developed Smart Wildfire Sensor to capture photos of nearby fallen branches and leaves and estimate an area's biomass, moisture content, and size. This information is used to determine how much dead fuel is present, and thus the likelihood of a fire. Their project is now in the running for Google's AI for Social Good program, which will disperse \$25 million in grant funding to winning teams. Additionally, a San Francisco-based company creates maps that break down the composition of forests across the continental U.S. using satellite imagery. The company's initial clients were timber companies, but with a grant from Microsoft's AI for Earth program, the technology will attempt to prevent wildfires by helping to identify "fire mitigation hot spots." This information could help planners figure out how and where to intervene. (*Fast Company*, 12/13/18)

### SOME PRIVATE FORESTS DON'T RECOVER AFTER FIRE

The San Francisco Chronicle reported that after wildfires decimated California forestlands in the last several years, many privately-owned timberlands are being left alone or converted to other uses. It is estimated that in California, individuals and families own approximately 9 million acres of heavily wooded property. With the estimated cost of restoration at \$400/acre, many small property owners don't have the money or resources to clear out and replace the landscape.

However, more than 228,000 acres of private timber have been cut down since 2009, by owners using emergency timber harvest permits. These permits exempt landowners from the California Environmental

Quality Act's rigorous timber harvest review process if they have experienced catastrophic events, like fires. This allows some property owners to remove trees deemed by licensed foresters to be dead or dying, and to sell the timber. (*San Francisco Chronicle*, 12/25/18)

### SEEDING THE FOREST WITH DRONES

Replanting a forest after harvest or fire is costly and labor-intensive. DroneSeed has reportedly developed drones that are able to scout an area, accurately map the area with objects and plant species, apply herbicides, identify where trees would grow best, then deploy seed-nutrient packages to those locations. It's reported to be cheaper than hiring manual laborers, less wasteful and dangerous than helicopters, and smart enough to scale to national forestland.

Earlier this year, DroneSeed was awarded the first multi-craft, over-55-pounds unmanned aerial vehicle license ever issued by the FAA. Its custom UAV platforms, equipped with multispectral camera arrays, high-end lidar, six-gallon tanks of herbicide and proprietary seed dispersal mechanisms have been hired by several major forest management companies, with government entities eyeing the service as well. (*Friday Offcuts*, 12/7/18)

### NANO-CELLULOSE INFUSED CONCRETE

When cellulosic nanomaterials (CN) are added to concrete, they are believed to increase the strength, lighten the weight, and lessen the cost. They are also believed to reduce the environmental impact of the concrete manufacturing process.

CN is produced by breaking down wood to its smallest, strongest components through mechanical and chemical processes similar to making paper. These tiny rod-like structures have diameters 20,000 times smaller than the width of a human hair and can be seen only using an electron microscope, yet they are as strong as steel with only one-fifth the weight.

Researchers plan to conduct head-to-head comparisons of nanomaterial-enhanced concrete with traditional concrete in three different testing locations: a small sidewalk in Madison, WI; a county bridge deck in northern California, and, the largest commercial test in the world—a parking lot in downtown Greenville, South Carolina. The long-term goal of the study is to test how well the nanomaterial-enhanced mixture compares with traditional concrete when it comes to reducing carbon emissions, materials used, and cost. (*Greenville Journal*, 12/5/18 & *Press Release*, 12/7/18)

