March 17, 2021

Dear Chair Golden and members of the committee,

I'm an Oregonian who attended the March 15th public hearing for SB 248-1 and SB 287. I'm concerned about the most efficient way to spend money for wildfire preparedness. A main tension at the March 15th hearing was whether Oregon should approach wildfire by focusing on the areas around communities or by thinning forests. The testimonies proposing wide-scale forest thinning to reduce wildfire risk did not address the scalability of scaling thinning projects, the exorbitant economic costs to thin, or the inherent carbon emissions involved in tree removal. After attending the hearing, I think we should focus on timely and economical actions that reduce threats to communities: fireproofing through home hardening and creating defensible space.

In his testimony, Dylan Kruse, approached wildfire preparation with a forest-thinning-oriented approach. Kruse's presentation was problematic because he suggested prioritizing certain areas of Oregon for fuel treatment but went on to propose thinning extremely large areas of land. Kruse introduced a map (Figure 1) that identified large areas of Oregon as "priorities" for fuel treatment. However, based on the Adobe measuring tool, the circled areas represent over a quarter of Oregon's total area. The targeted areas also don't overlap completely with the regions where Oregon experienced wildfires in the 2020 fire season, nor are they consistent with population density. The targeted areas don't account for areas West of the Cascades hit the hardest in the Labor Day fires and the selected landscape near Burns, OR on the graph is a low-population area.

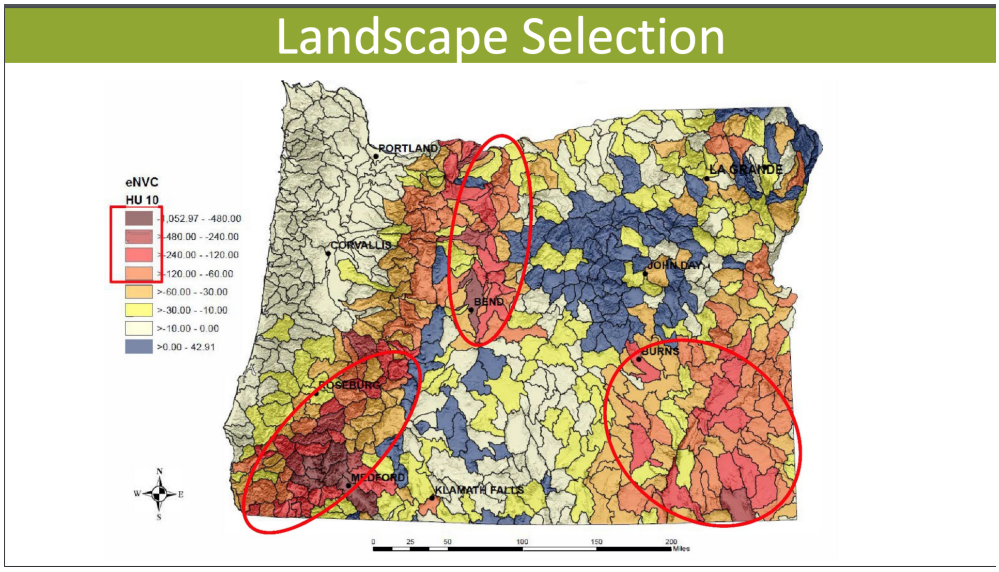

Figure 1

Kruse's "prioritization" of 1/4 of Oregon, would involve cutting down large quantities of timber. Research shows that "Broad-scale thinning of forests conflicts with carbon sequestration goals and would result in higher emissions" (Key Scientific Findings on Forests, Fire, Carbon and Climate pg. 1).

Even if thinning thousands of acres of land would meaningfully impact the fire season and not release carbon dioxide into the atmosphere, it would not be financially feasible. Jeff Burns reported that treating 1,418 acres required $600,000 in funding, so by the same factor, 7,199 acres requires over 3 million in funding and 5 million acres requires over 2 billion in funding. ODF has $4 million to award to wildfire mitigation projects, but allocating more than three-quarters of that funding to forest thinning would leave less funding for home hardening and other community-oriented fire prevention measures.

Instead of widespread thinning operations, Oregon should refocus efforts on home hardening, fuel treatments in the areas immediately around communities, and prescribed burning. Home hardening efforts could enlist the Youth Corps, which would engage and educate communities and provide jobs. Home-oriented fire preparedness is also more effective. Medler writes, "I have worked in the Oregon woods thinning with chainsaws, and I can tell you that 10 million acres is too big a problem to solve with saws. It is a massive area. I am proposing that instead we focus on thinning in buffers around communities. This would let us put our resources into a space about 100th the size and have a far bigger impact."

In sum, presentations and testimonies in favor of forest thinning were unconvincing. Plans for forest thinning are infeasible, don't effectively prioritize land around communities, and would result in more carbon released into the atmosphere. Focusing on prevention from homes outward as opposed to from forests inward is a more feasible and effective strategy.

Summary:

- Oregon should approach wildfire by focusing on the areas around communities as opposed to thinning forests.
- The March 15th Committee On Natural Resources and Wildfire Recovery hearing included inaccurate predictions of thinning's abilities to protect communities.
- Issues with plans to thin
    - Economically infeasible
    - Don't effectively prioritize land
    - Carbon released into the atmosphere

Attached is "Key Scientific Findings on Forests, Fire, Carbon and Climate."

Celia Parry

Key Scientific Findings on Forests, Fire, Carbon and Climate (April 26, 2019)

Dr. Beverly Law, Professor Global Change Biology & Terrestrial Systems Science, Oregon State University
Dr. Mark E. Harmon, Emeritus Professor, Forest Ecosystems & Society, Oregon State University
Dr. Tara Hudiburg, Assoc. Professor, Dept. Forest, Rangeland and Fire Sciences, University of Idaho

Carbon in forests is carbon that is not in the atmosphere.

- Young forests do not take up more carbon from the atmosphere annually than older forests (Luyssaert et al. 2008). The first 10 to 20 years after harvest or stand-replacing disturbance, young forests are a net emission to the atmosphere (Amiro et al. 2010, Law et al. 2001).
- Forest harvest results in net carbon emissions versus leaving forests unharvested. Significant amounts of carbon are lost at each stage of timber harvest, manufacturing, and the end of useful product life (Hudiburg et al. 2011, Law et al. 2018). Whereas, forests actively withdraw carbon from the atmosphere and store and conserve it more effectively and for longer periods of time than do products derived from harvested trees (Hudiburg et al. 2009, 2013, Law & Harmon 2011, Harmon et al. 1990). Forest carbon can be increased by reducing harvest, i.e. increasing harvest cycle, forest carbon reserves (Law et al. 2018).

Fires:

- **Wildfire is an essential ecological process**. The dominant fire regime is mixed severity (Law & Waring 2015). Such burned landscapes have shown prolific recovery and diversity of species (Tingley et al. 2016, Fontaine et al. 2009).
- Most Oregon fires release a small fraction (~5%-10%) of the biomass carbon (Law & Waring 2015). Fire emissions are <10% of OGWC reported non-forest emissions (Law et al. 2018).
- **Broad-scale thinning of forests conflicts with carbon sequestration goals** and would result in higher emissions (Law et al. 2013, Hudiburg et al. 2011). The amount of carbon removed is often much larger than that saved, and more area is harvested than would actually burn (Mitchell et al. 2009, Rhodes et al. 2009, Law & Harmon 2011).
- **Post-fire logging** frequently damages ecosystems, particularly on steep slopes. Impacts include soil erosion and degraded river hydrology (Karr et al. 2004).

Summary:

- **First priority is to protect the public in the wildland-urban interface** (Radeloff et al. 2005). Studies suggest focusing on residential loss in the home ignition zone rather than treating the larger WUI, because home materials, design and maintenance in relation to surroundings were main factors in residential losses (Calkin et. al 2014).
- **To meet climate mitigation goals and conserve forest carbon and the co-benefits to forest ecosystems,** there is the potential to keep carbon in existing forests and store more carbon in forests by reducing harvest and afforestation of areas that used to be forests long ago. Forests play an important role in offsetting fossil fuel emissions.

Citations

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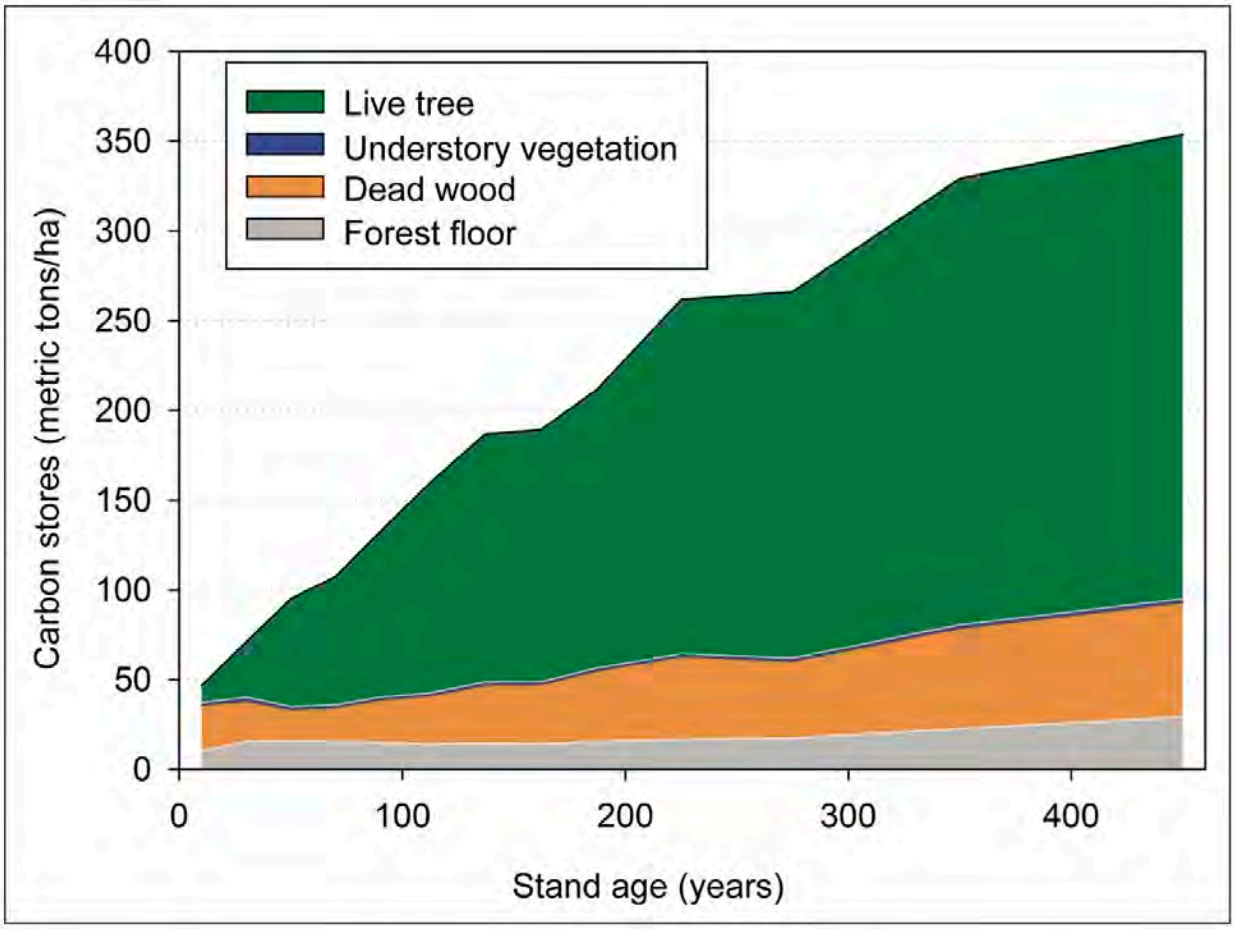


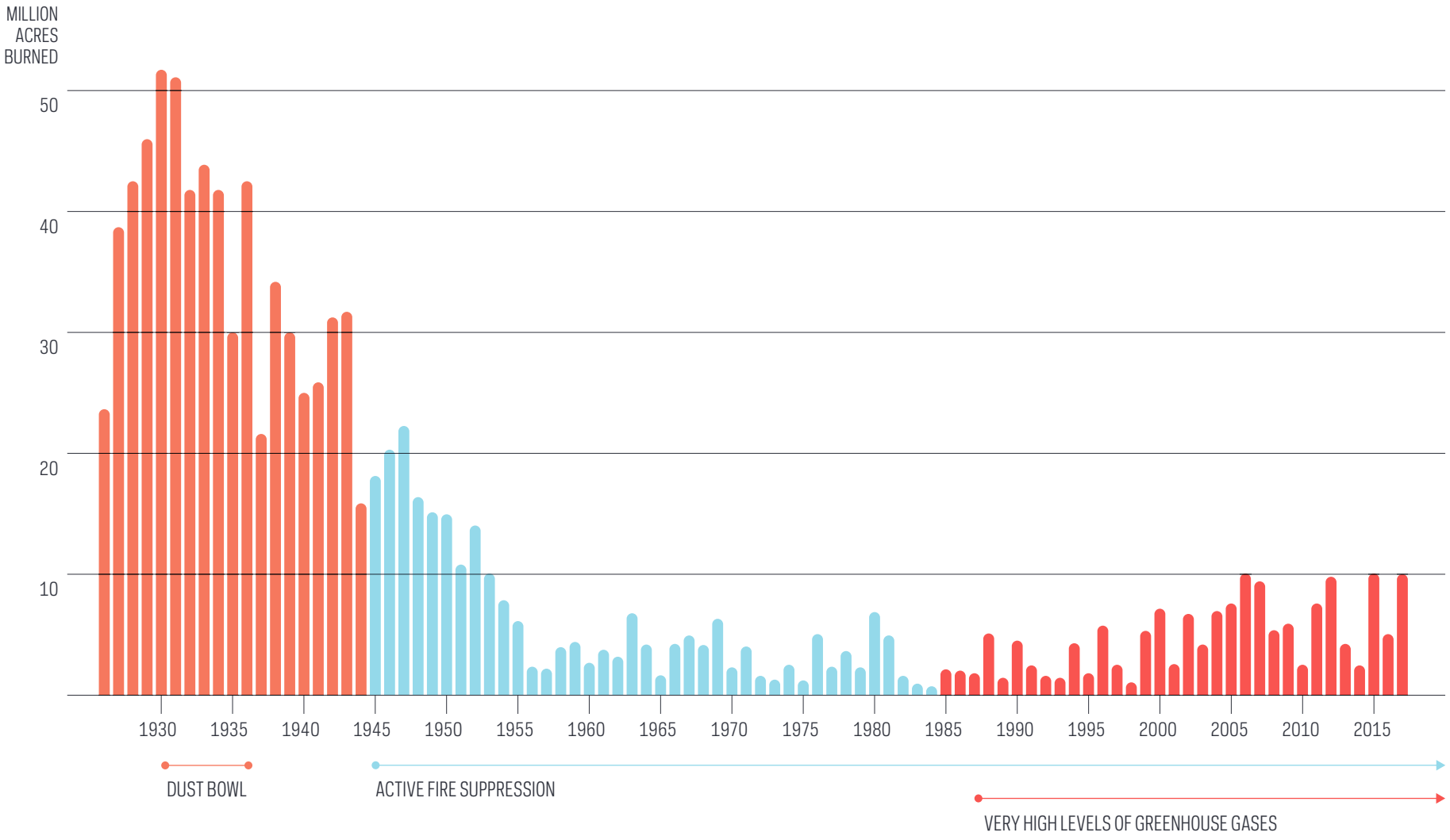
TOTAL U.S. WILDFIRE ACRES 1926-2017

Source: National Interagency Fire Center; nifc.gov

Warm, dry climate period

Cool, wet climate period

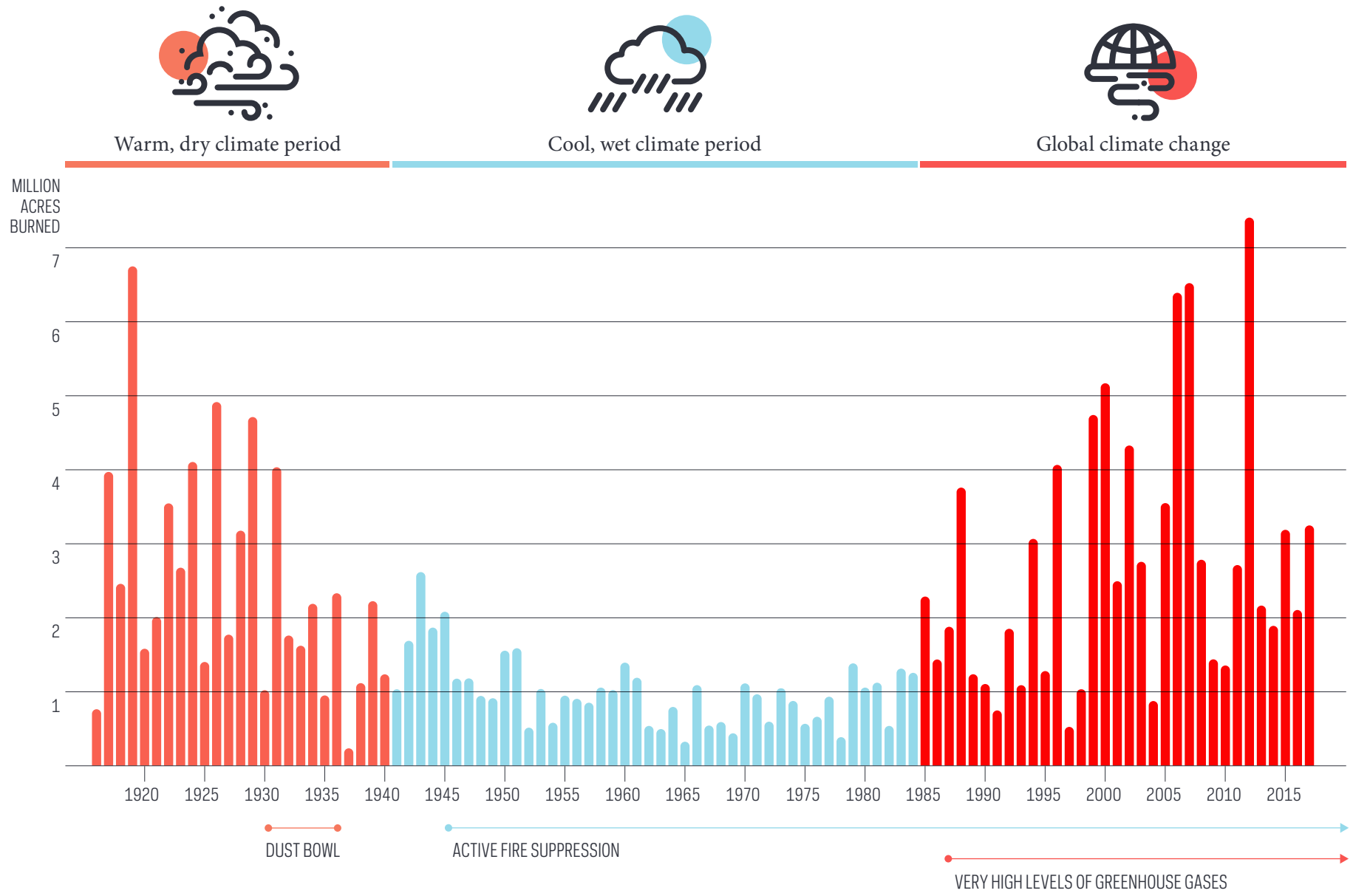
Global climate change



FIRE SUPPRESSION GOT A HELPING HAND

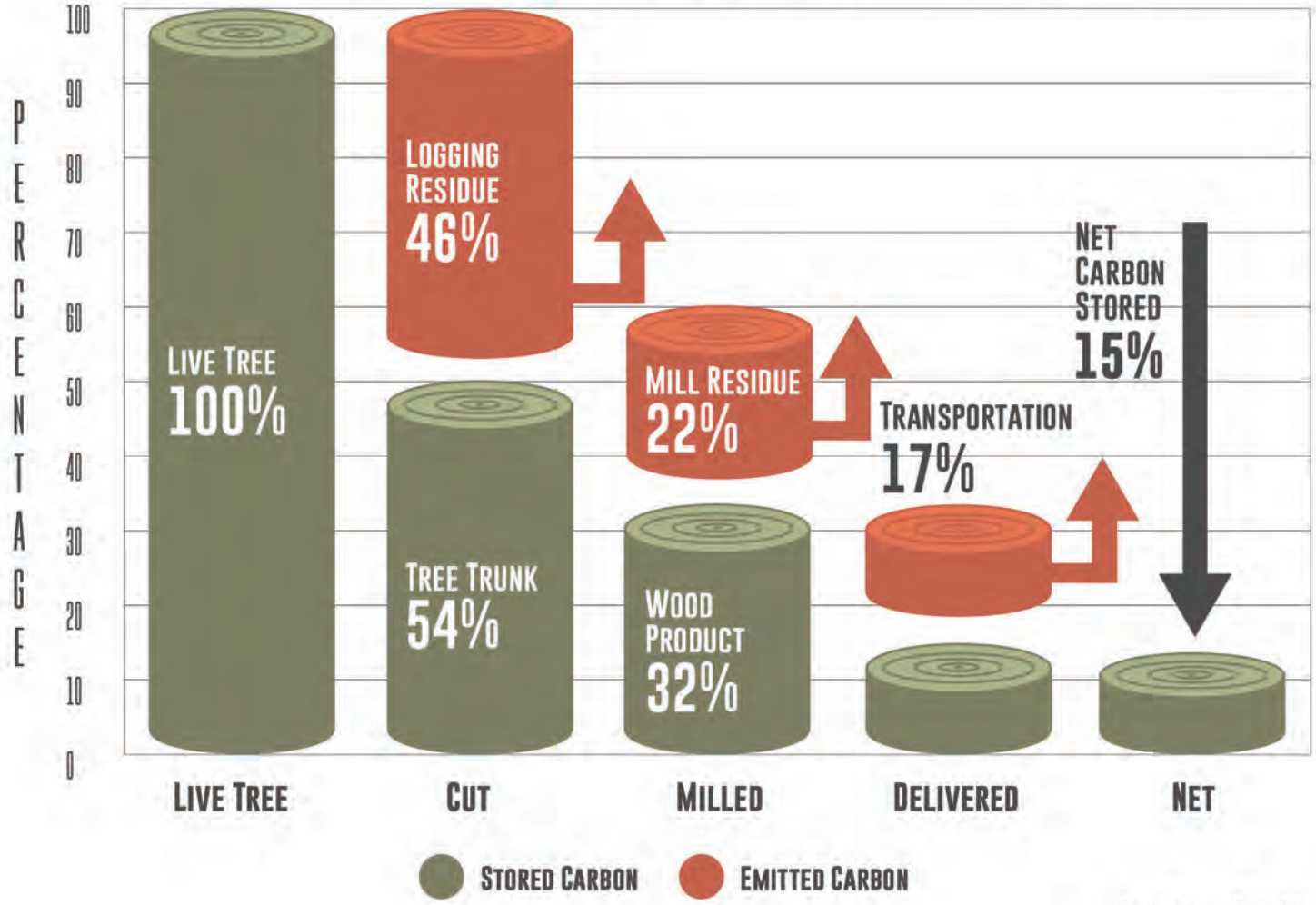
WESTERN U.S.

Arizona	Montana	Utah
California	Oregon	Washington
Colorado	New Mexico	Wyoming
Idaho	Nevada	



Source: National Interagency Fire Center; nifc.gov, ncdc.noaa.gov/teleconnections/pdo/; Dr. Paul Hessburg, May 2019 testimony to Oregon's Wildfire Response Council

Fate of Carbon from Harvested Wood



◆ Data from Smith et al. 2006 and Gower et al. 2006

THE CARBON DEBT CREATED BY INDUSTRIAL FORESTRY

NATIVE OLD-GROWTH FOREST

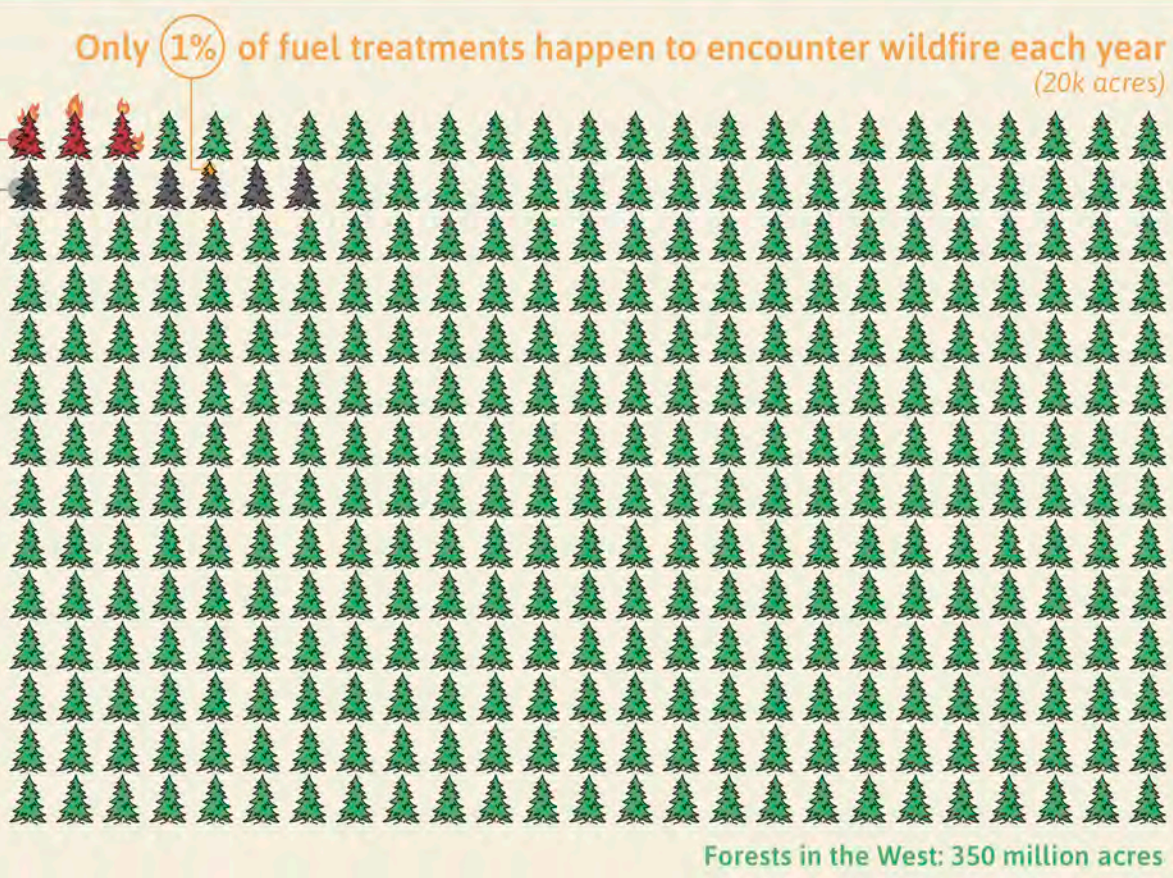
Average carbon stored in old-growth forests of western Oregon

INDUSTRIAL TIMBERLAND

Average carbon stored in timber plantations and clearcuts in Oregon Coast Range

Sources:
- *Seidl et al. 2012. Multi-scale Drivers of Spatial Variation in Old-Growth Forest Carbon Density Disentangled with Lidar and an Individual-Based Landscape Model*
- *Keith et al. 2009. Re-evaluation of forest biomass carbon stocks and lessons from the world's most carbon-dense forests*
- *U.S. Forest Service, Bansal et al. 2017. Oregon's forest resources, 2001–2010: ten-year Forest Inventory and Analysis report*
- *Photos by Francis Eatherington and Charles Reneau (courtesy of Oregon Wild)*

THINNING THE FOREST TO INFLUENCE FIRE BEHAVIOR IS A SHOT IN THE DARK



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- Schoennagel et al. 2017. Adapt to wildfire in western North American forests as climate changes.
- Barnett et al. 2016. Beyond fuel treatment effectiveness: Characterizing interactions between fire and treatments in the US.