February 9, 2022

To: Senator Jeff Golden, Chair
Senate Committee on Natural Resources and Wildfire Recovery

Subject: SB 1534

Dear Senator Golden, Vice Chair Kennemer and Members of the Committee:

The Oregon Society of American Foresters thanks the Senate Committee on Natural Resources and Wildfire Recovery for your consideration of the issue of biogenic mitigation of climate change.

Below are our comments on Senate Bill 1534.

The Oregon Society of American Foresters (OSAF) supports science-based policy efforts to recognize the role that Oregon's forests and forest management play in mitigating greenhouse gas emissions through the sequestration of carbon in forests and wood products, the substitutions of biomass-derived products for fossil fuels, and avoided emissions associated with management practices that increase forest resistance and resilience to wildfire, droughts, insects, and other disturbances.

Reports and Data Collection

This legislation would require the collection of forest carbon sequestration and storage baseline information and other data which would eventually become the foundation for legislation, policies and programs affecting land management actions. Consequently, it is important that this data be sufficiently comprehensive. Ultimately the goal is to increase net sequestration of carbon with recognition of the lifecycle of biogenic carbon as it moves from one pool to another, the effects of emissions from wildfire and decomposition and concepts such as substitution and leakage.

In this context, we encourage the following revisions to the text of SB 1534 in order to adequately reflect the roles of carbon storage in wood products and forest management activities on carbon sequestration and emissions in the proposed natural and working lands and waters carbon sequestration inventory. With respect to forest biomass, accounting for net sequestration will require consideration of more than just tree growth but also factors such as storage in wood products, wood substitution for other building materials, use of wood for energy production, increasing loss of forest biomass to wildfire and recognition of follow-up reforestation efforts and their success.

Related to the baseline assessment, the Bill includes various tribal lands in the category of natural working lands and waters. OSAF questions why these lands would be included in baseline data development while public lands, especially Federal lands, are not referenced. If we intend to take an all-lands approach that is wholistically looking at climate change solutions in the state, then Federal lands should be included in the baseline data collection. Specifically, one of the strategies mentioned in the January 12th presentation to the Committee during legislative days, referenced "leveraging federal land and investment in practices," but it is unclear in the proposed Bill language where Federal lands fit into these equations.

OSAF supports the addition of language to explicitly include the contributions of carbon stored in harvested wood products, emissions avoided by the substitution of harvested wood products for higher greenhouse gas producing materials, and the effects of market leakage associated with changes in timber harvest levels into the natural and working lands and waters carbon sequestration inventory described in Sec. 5(1)(b) of SB 1534. Carbon stored in harvested wood products has the potential to offset a significant amount of carbon emissions from industrial processes in timber producing areas (Johnston and Radeloff 2019), and life cycle analyses indicate that the substitution of wood products for building materials such as steel, concrete, brick, and vinyl promotes increased carbon storage and reduce greenhouse gas emissions (Lippke et al. 2004, Malmsheimer et al. 2011). Additionally, the failure to account for market leakage in carbon inventories can result in dramatic overestimates of carbon sequestration associated with forest carbon projects that reduce harvest levels (Murray et al. 2004). The proposed use of the United States Environmental Protection Agency's Inventory of U.S. Greenhouse Gas Emissions and Sinks methods for developing the natural and working lands and waters carbon sequestration inventory (SB 1534, Sec. 5(1)(b)) does not explicitly account for changes in carbon storage within the harvested wood products pool over time, for avoided emissions as a result of wood product substitution for higher greenhouse gas emitting materials, or for the impacts of market leakage associated with any reductions in Oregon's timber harvest levels. Additional text is needed to specify that these important contributions to net carbon sequestration in Oregon's forestlands will be incorporated into both the baseline carbon sequestration inventory, and future inventories.

OSAF supports the addition of new language that calls for estimates of avoided emissions associated with forest management practices that reduce forests' vulnerabilities to wildfire, insects, and drought to be included in the natural and working lands and waters carbon sequestration inventory described in Sec 5(b) of SB 1534. Although the text of SB 1534 makes repeated references to management practices that increase forest resilience, it does not explicitly acknowledge the importance of practices that increase the resistance of forest carbon stocks to disturbance (i.e, practices that reduce losses in forest carbo stocks and/or sequestration potential as a result of forest disturbance events). Disturbances like wildfire, bark beetles, and drought contribute to significant biogenic carbon emissions through the direct combustion of organic material (wildfire only) and the release of greenhouse gasses as vegetation killed by the disturbance event decomposes (Hicke et al. 2012, Williams et al. 2016). Continued climate change is likely to

increase wildfire, insect, and drought activity (Seidl et al. 2017), contributing to increased biogenic carbon emissions from these disturbances in forests. Forest management practices such as thinning and prescribed burning that reduce in situ carbon stocks in forests in the short term can ultimately contribute to increased carbon stocks in the long term as a result of reduced vulnerability to disturbances (Ontl et al. 2020) and associated reductions in biogenic carbon emissions (e.g., Bonnicksen 2008, Finkral and Evans 2008). Adding text to the natural and working lands and waters carbon sequestration inventory (Sec. 5(1)(b)) that requires estimates of forest management contributions to avoided carbon emissions from forest disturbances will prevent the proposed carbon inventory process from effectively penalizing forest management actions that temporarily reduce forest carbon stocks in order to reduce long-term vulnerability and carbon losses associated with wildfires, droughts, and insects.

OSAF believes activity-based metrics may partially, but not fully, address these factors, but we believe that this type of data needs to be collected and considered in any subsequent legislation regarding forest management.

OSAF also would like to see all reports and scientific documents to be developed in the Bill to be peer reviewed and to include a summary that recognizes the complexity of these topics with contradicting science. Summaries need to be contextualized and reports/data should be followed up with the ways in which the reports/data should and should not be used based on the methodology and assumptions made.

Advisory Committee

The base legislation also requires the formation of a Natural and Working Lands and Waters Advisory Committee. While the stipulated membership is diverse, the inclusion of forestry industry is not specific enough to recognize both industrial and non-industrial forest landowners who will play an integral part in reaching carbon sequestration goals and would likely be affected by any subsequent legislation. Foresters who manage forest land and advise owners on forest land management should also be expressly included on the Committee. Having a professional forester on the Committee is important because they have broad educational and experiential backgrounds and, very importantly, are the people who must interpret and implement rules and policies. Professional foresters are critical stakeholders who should be engaged early to ensure practicable goals and activities are analyzed in the reports and studies outlined in the Bill, but also to ensure realistic programs and issues are being addressed by the Oregon Global Warming Commission.

Once again, thank you for your work on this important legislation, and the opportunity to comment. If you need clarification on any of the points we have made, please call me at (503) 354-5707.

David Wells
Chair, Oregon Society of American Foresters

The Society of American Foresters (SAF) is the national scientific and educational organization representing the forestry profession in the United States. Oregon SAF currently has more than 700 members who are engaged in the management of forests (plants) the only proven technology for actually removing carbon from the atmosphere.

Appendix: Literature Cited

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