

Committee on Natural Resources

Senator Jeff Golden chair

Dear Chair and committee members:

I write to enthusiastically support SB530 The Natural Climate Solutions Bill.

I am a retired environmental microbiologist (previously Prof. Microbiology Oregon State University then senior research scientist US EPA). For the last 6 years I have worked with several nonprofit organizations, to educate, promote, and encourage farmers and foresters, agencies, and the public to consider healthy soil practices. I write this letter as a technical advisor to non-profits Southern Oregon Climate Action Now (SOCAN), Our Family Farms, Cultivate Oregon, The Oregon Grange, and the Oregon Association of Conservation Districts. This letter is written to support the positions of these nonprofits. I also write as a rural Oregonian, living on 5 acres of land fed by a well. My wife and I own a boutique lavender farm where we practice healthy soil management. There is no external commercial fertilizer nor toxic commercial pesticides ever used on this crop.

This Bill (SB 530) would provide dedicated funding to encourage the voluntary adoption of natural climate solutions on Oregon's natural and working lands.

Why should the public along with farmers and ranchers consider supporting SB530? The answer is; it is clear and scientifically proven that Natural Climate Solutions means healthy soil practices that provide numerous agronomic and financial and human health benefits to us all not just the owners of those natural and working lands.

For example, one study from Ohio State University, soil scientists estimated that for every 1% increase in soil organic matter (SOM) in healthy soil, farmers could benefit financially by saving nearly \$700 in fertilizer costs (<https://ohioline.osu.edu/factsheet/SAG-16>). One percent increase in SOM may take 2-5 years to produce. Since that study was posted in 2010, those savings in today's dollars will be substantially more! Less air pollution (e.g., dust) and less polluted runoff water also result from improving soil health.

Furthermore, the USDA calculates significant fuel savings also occurs when landowners support natural climate solutions that sequesters organic matter into the soil. (<https://www.usda.gov/media/blog/2017/11/30/saving-money-time-and-soil-economics-no-till-farming>) Current off road diesel prices in the U.S. Average over \$4.50 per gallon. (https://ycharts.com/indicators/us_retail_diesel_price#:~:text=US%20Retail%20Diesel%20Price%20is%20at%20a%20current%20level%20of,18.02%25%20from%20one%20year%20ago.ctsheet). If a farmer with 500 acres of crops switches from continuous conventional till to continuous no-till, he or she saves 4,160 gallons of diesel fuel – more than \$8,500 worth – each year!

Healthy soil practices result from increasing the soil organic content. The carbon in this organic matter is derived from atmospheric carbon dioxide, previously removed by photosynthesis. Carbon dioxide is a significant cause of global warming. Therefore, the production of healthy soils is a natural climate solution to mitigating the effects of a warming climate.

Encouraging owners of Natural and Working Lands (NWL) to alter their agronomic or forestry practices requires encouragement, education, and financial incentives due to initial increased costs involving equipment (e.g., a no till drill), loss of revenue (due to extended harvest times in forests), purchase of cover crop seeds, fencing for rotational grazing, and an informed work force that can guide these landowners through the processes that produce healthy soils.

This bill will accomplish all these basic needs. Currently and within the past 10 years over 140 million acres of farm, ranch, and pasture lands in the U.S. have practiced conservation agriculture, i.e., practices that lead to healthy soil conditions. Within the State of Oregon some \$29 million dollars have been spent through the USDA NRCS conservation programs to support cover crop seeding, no till or reduced tillage, prescribed grazing, forest improvements as well as crop rotation to produce healthy soils.

There is currently no known inventory of healthy soils in Oregon nor even any general knowledge on the amounts of existing organic carbon in NWL soils throughout the State. This is despite the USDA Natural Resources Conservation Service providing considerable funding to establish “healthy” soil ecosystems in Oregon over the last 10 years. What were baseline

levels of soil organic matter, where are things today and how healthy are Oregon soils? This Bill will correct this severe oversight and establish a baseline inventory so that any changes and improvements can be documented over time. **Thus, for the very first time we can learn which practices achieve the greatest amounts of sequestered carbon and which adopted practices will yield the best, most rapid natural climate solution investments.**

When considering workforce needs and their assignments which are not clearly revealed within this version of the bill, please note that current knowledge about Natural Climate Solutions is not broadly available in Oregon and there is a minuscule number of high-level experts to lead and teach landowners what to do. It is essential that any leaders and others associated with the workforce be scientifically trained and are known to be supportive of the roles and relevance of organic carbon sequestration based on the voluminous literature available that supports the concept.

Furthermore, the bill claims to have, as a major goal, positioning the state to leverage significant new federal funding and private investments. It is not clear what might be done to leverage the coming federal dollars and it is not clear what private investments might arise as a result of this program. By 'private investments' I wonder if the bill intends to involve the voluntary carbon marketplace and the generation of financial rewards for landowners who participate longer term in healthy soil practices that sequester atmospheric carbon into the soil? These comments are not intended to be criticisms of this Bill but rather suggested topics for clarification improvements in bill details.

Thanks for reading my comments.

Sincerely,

**Ray Seidler, Ph.D.
Ashland, OR 97520**