

May 13, 2019

Testimony Regarding HB 3433

Joint Committee on Carbon Reduction

Submitted by: Catherine Macdonald, Oregon Climate Policy Director, The Nature Conservancy

Thank you for the opportunity to provide testimony regarding HB 3433. Reducing emissions, increasing carbon sequestration and improving ecosystem and community resilience are priorities for The Nature Conservancy.

As such, we appreciate HB 3433's inclusion of a reference to the **Paris Agreement's recommendation that natural and working lands strategies should be used to reassess, update, and deepen emissions reductions commitment's over time.** The 2018 [Fourth National Climate Assessment](#) and [Intergovernmental Panel on Climate Change's 1.5 degrees Celsius Report](#) are urgent wake-up calls on the need for ambitious climate action. Limiting global warming to 1.5°C will require "rapid and far-reaching action." This must include **aggressive action to reduce anthropogenic emissions as well as increase sequestration on natural and working lands.**

We also appreciate the reference to the **U.S. Climate Alliance's Natural and Working Lands (N&WL) Initiative.** In August 2018, Governor Brown, along with a bi-partisan group of 15 other Governors made a commitment to the Alliance's N&WL [Challenge](#). As acknowledged in HB 3433, in signing the Challenge Governors committed to identify best practices and policy pathways for protecting and enhancing resilient carbon sinks on natural and working lands as noted in the bill. **Through this initiative several states are now in discussion of increasing their decarbonization goals to net neutrality and beyond. The Nature Conservancy is part of the [U.S. Climate Alliances Impact Partnership](#) working to support states in their efforts to meet the N&WL Challenge. I would be happy to brief legislators on the discussions other states are having on deep decarbonization. Oregon could be a leader in this space given the make-up of our natural and working lands.**

I wanted to **recommend that legislators review Chapter 15 in a recent book called *Ecological Forest Management* by Oregon State University and University of Washington researchers – Norm Johnson, Debora Johnson and Jerry Franklin.** Published by Waveland Press Inc, Long Grove, Illinois in 2018, it has a good treatment of the current state of knowledge regarding carbon accounting associated with management of forests and wood products carbon pools including a good overview of what is relatively well known and still being debated in the academic community regarding the same. Several statements regarding forest management in the whereas clauses could be misinterpreted and lead to management strategies that would not increase sequestration in N&WL and the products they produce.

The Nature Conservancy supports some of HB 3433 provisions regarding studies that could be done to inform investment of funding in natural and working lands. As referenced in the bill, some of this work is underway through the Oregon Department of Forestry.

We also want to highlight work TNC is doing in partnership with researchers at Portland State University to develop a more tailored study of the sequestration potential in Oregon’s natural and working lands. This work is modeled after “pathways” studies TNC has led to evaluate the Natural Climate Solutions potential [Globally](#) and in [U.S.](#) The Oregon work (described in the Appendix to this document) will quantify the potential of N&WL in Oregon and **engage stakeholders to inform ways of structuring N&WL incentives and investments programs to work best for landowners.**

Two additional projects TNC colleagues in California have completed in partnership with others could be developed and applied in Oregon to help inform N&WL strategies – the first is a more [detailed spatially-explicit and climate informed pathways assessment for California](#). The second set of projects involved work with the State of California and planners from [Merced](#) and [Sonoma](#) Counties. In these projects, we helped to develop County level climate mitigation jurisdictional accounting methods to provide ways for local governments, land managers, and planners to understand how land use and management decisions can provide climate mitigation and other co-benefits. To support this work, we helped the State of California build accounting methods and a planning tool called [TerrAccount](#) for county level land use planning. It can help planners and decision-makers assess the greenhouse gas (GHG) and natural resource implications of different development patterns and management activities.

In closing, for many of the reasons stated in HB 3433, we urge legislators to pass House Bill 2020 with the -84 amendment; to authorize funding for N&WL inventories, baseline assessments and research; and to push for deeper decarbonization through investments in sequestration and emission reduction in N&WL’s. Thank you for the opportunity to provide comments.

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The Nature Conservancy (TNC) is a science-based and non-partisan conservation organization. Our mission is to protect the lands and waters on which all life depends. TNC was incorporated in Oregon in 1961. Today we have over 70,000 supporters statewide with members in every county. Our staff, based in communities across the state, work collaboratively with tribes, government agencies, elected officials, private landowners, businesses, and natural resource stakeholders to develop innovative solutions to the major challenges facing people and nature.

Natural climate solution strategies in Oregon: Portland State University and The Nature Conservancy joint research

Research team: Dr. Rose Graves, PSU-TNC postdoctoral research fellow; Dr. Andres Holz, Dr. Max Nielsen-Pincus, Portland State University; Dr. Ryan Haugo, Cathy Macdonald, Ken Popper, Bryce Kellogg, Michael Schindel, The Nature Conservancy

Natural and working lands have tremendous potential to contribute to mitigation of carbon emissions while also providing such benefits as ecosystem goods and services (e.g., food, fiber, fuel, clean water and air, recreation, economic goods) and sustaining biodiversity¹⁻⁴. Natural climate solutions (NCS) are activities that increase or sustain the capacity of natural and working lands to store carbon and mitigate greenhouse gas (GHG) emissions¹. These NCS can include, but are not limited to, changing land management practices such as increasing forest harvest rotations, planting agricultural cover crops, or reforestation plantings after wildfire, avoiding conversion of natural and working lands by establishing conservation easements, and restoring natural areas like wetlands or riparian areas¹⁻³. A recent global analysis identified the potential for NCS to provide up to 30% of GHG emissions reductions needed to meet reduction goals through 2030¹. Further study suggests that NCS activities could provide additional carbon storage and avoided GHG emissions equivalent to 22% of the United States' current net annual emissions³.

To effectively include NCS in climate mitigation strategies, decision-makers need to know which NCS strategies have the greatest potential and how best to develop policies and design programs that facilitate NCS strategies⁵⁻⁶. Our goal is to build on existing science to provide NCS decision-support information to and complement ongoing efforts by the Oregon Office of Carbon Policy, Oregon state agencies, the Oregon Legislature, and stakeholders interested in carbon policy to identify the potential for NCS to contribute to carbon reduction goals in Oregon. We aim to collaborate with agencies, communities, landowners, and industry stakeholders to identify NCS implementation scenarios and the co-benefits it could provide to the well-being of people and nature.

Research approach: The research will be conducted in two main phases (Figure 1). Phase 1 will evaluate the potential NCS pathways for Oregon and Phase 2 will incorporate stakeholder feedback to create plausible NCS implementation scenarios.

Phase 1: What is the potential for NCS activities to increase carbon storage and reduce GHG emissions in Oregon? Using an exhaustive literature review and biome-specific datasets, we will estimate the potential yearly emissions reductions and/or carbon sequestration associated with a variety of potential NCS pathways¹⁻³. Peer-review literature will be given preference, but where unavailable, we will use unpublished datasets and technical reports to complete the dataset and to assess assumptions common in NCS analyses at broader scales.

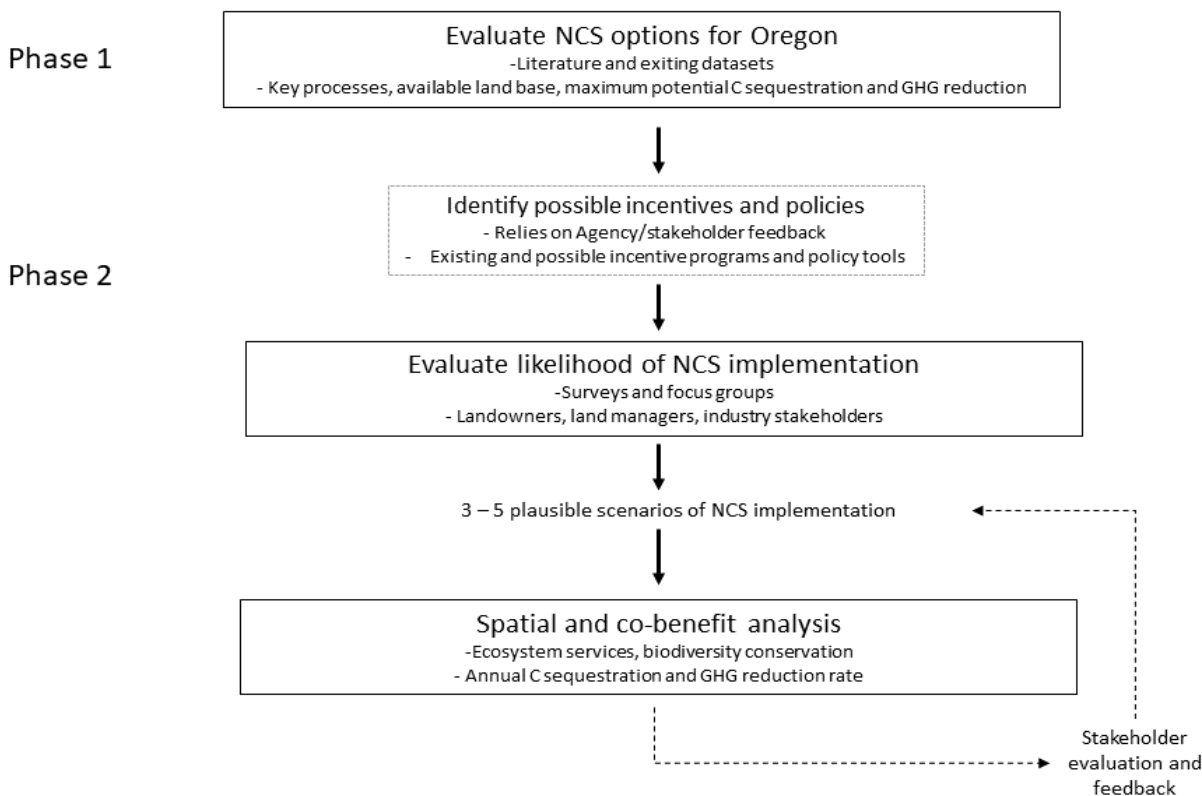


Figure 1. Research workflow for Natural Climate Solutions in Oregon

Phase 2: What are plausible NCS implementation scenarios and to what extent do different implementation scenarios produce co-benefits? Based on the results from Phase 1 and collaboration with agencies and policy makers, we will identify a suite of programmatic and policy tools that could be used to incentivize or encourage participation in NCS. Then, using surveys and focus groups of stakeholders, landowners, and managers of natural and working lands⁷ we will assess stakeholder and landowner willingness to participate in NCS management under these different programmatic and policy circumstances. Stakeholder input will ultimately guide the development of plausible implementation scenarios and an analysis of the likely contribution of NCS to carbon mitigation. We will combine these scenarios with ecosystem service data (e.g., water provision, agricultural production, forest products) and relevant biodiversity indicators to quantify the extent to which NCS activities may provide co-benefits⁸⁻¹⁰.

References

1. Griscom, B. et al. 2017. Natural climate solutions. PNAS 114, 11645–11650.
2. Cameron, D. et al. 2017. Ecosystem management and land conservation can substantially contribute to California’s climate mitigation goals. PNAS 114, 12833–12838.
3. Fargione, J et al. 2018. Natural climate solutions for the United States. Sci. Adv. *In press*.
4. Lamb, A. et al. 2016. The potential for land sparing to offset greenhouse gas emissions from agriculture. Nat. Clim. Chang. 6, 488–492.
5. Rogelj, J. et al. 2016. Paris Agreement climate proposals need a boost to keep warming well below 2°C. Nature 534, 631–639.
6. Griggs, D. et al. 2013. Sustainable development goals for people and planet. Nature 495, 305–307
7. Nielsen-Pincus, M. et al. 2015. Spatially and socially segmenting private landowner motivations, properties, and management: A typology for the wildland urban interface. Landsc. Urban Plan. 137, 1–12.
8. Chan, K. et al. 2011. Ecosystem services in conservation planning: targeted benefits vs. co-benefits or costs? PLoS One 6, e24378.

9. Visseren-Hamakers, I. et al. 2012. Trade-offs, co-benefits and safeguards: current debates on the breadth of REDD+. *Curr. Opin. Environ. Sustain.* 4, 646–653.
10. Phelps, J. et al. 2012. Biodiversity co-benefits of policies to reduce forest-carbon emissions. *Nat. Clim. Chang.* 2, 497–503.