

OGWC - Public Comments Submitted for August 4th 2021 Commission Meeting

August 2, 2021

For: Cathy Macdonald, Chair and Members

Oregon Global Warming Commission

From Angus Duncan

Subject: Comments to July 26 Draft Natural and Working Lands Proposal

While there is much detail to be reviewed in the Commission's Draft N&WL Proposal, my comments will focus in two areas: setting an appropriately significant and urgent goal and recommending ways and means sufficient to that goal.

Comments: Goals

- Setting Priorities:** On page 3 the draft describes its goal as “to manage Oregon’s natural and working lands to be the most resilient and robust climate sink we can achieve while maintaining the health of our economy and communities and enhancing equity and quality of life for all Oregonians.” This is an “all things to all people” statement that fails to recognize there will be tradeoffs that require a clear statement of priorities and thresholds. It should be corrected to read “. . . and robust climate sink ~~we can achieve~~ sufficient to the scale and urgency of the climate crisis and its escalating effects on Oregonians, while . . .”
- Setting N&WL’s Carbon Capture and Retention Levels:** On page 4 the draft intends to “Address the Urgency of Climate Action” with a “bold, ambitious and practical” goal. It then cites several studies suggesting plausible goals but chooses to rely on the less ambitious Graves et al study that proposes a 9.5 MMTCO₂e net sequestration goal for ***all natural and working lands***, and lets pass the Law et al study that proposes specific actions to increase carbon capture and sequestration on ***forest lands alone*** of an additional ± 15 MMTCO₂e. The draft then discounts the Graves analysis by a further 25% to 50% (and the Law figure by 50% to 75%) to arrive at a recommended goals that, largely on the basis of conjecture and limited (or uncited) data, defers to “practical” at the expense of “bold” and “ambitious.” It cites two reasons for this discounting: potential effects of wildfire, and economic effects of transition. In neither case are analyses and data offered in support.

The carbon release effects of increased levels and severity of wildfire are a reasonable conjecture to be sure, but the draft does not demonstrate that these are now or are likely soon

to be of a scale that supports the discounted levels. By contrast, the scale and urgency of the climate change effects argue for erring on the side of “bold” and “ambitious” until and unless the data clearly render these infeasible.

Equally data on the economic effects on wood products industries and workers of a more ambitious goal are not offered. These effects must be weighed in the context of the shortened rotations and accelerated harvests that have characterized the industry in recent years. The industry was prospering and generating good jobs, if not comparable levels of cash flow for the companies, in the immediately prior era when harvest practices included rotations twice as long as current norms. Additionally, faster or slower economic returns for the industry must now be measured against the economic, social and public health consequences of the failure to restrain emissions and increase forest carbon capture and retention. Analysis of employment effects must take into consideration the industry’s automation of tasks once performed by workers, and the potential forest jobs associated with new forest health and carbon management work.

The arbitrary discounting of the goal down from even the lower (Graves et al) figure does not reflect the Commission’s prior commitment to “Address the urgency of climate action.”

I urge the Commission to recommend not less than the 9.5 MMTCO_{2e} level of carbon capture and retention in Graves, subject to adjustment either up or down as further analysis warrants.

I further urge the Commission and the State to undertake a comparative economic impacts analysis of different ramp rate scenarios for reaching and sustaining this goal, one that includes the offsetting economic and jobs gains of the more extensive forest health interventions that will be required under any plausible scenario of forest health and carbon management.

Comments: Proposed Strategies

- 3. Process vs. Threshold Capture and Retention Levels:** I concur in the recommended four strategic areas for state, federal and industry action, as further developed in the balance of the OGWC paper. There is much of value, and nothing objectionable, in them until page 12. There, the Commission lamentably proposes a great deal of useful process but a dearth of warranted action, failing to clearly assert the carbon capture and retention thresholds that governing statute and the Executive Order warrant. The process recommendations would not have been out of place 20 years ago (when Governor Kulongoski’s Advisory Group in fact proposed some of them). But we’re entering into the fourth decade since we were put on notice of the existential risks of climate change. Time is running out for more process recommendations if they are not paralleled by active interventions.

Equally the referenced Oregon Department of Forestry’s Draft Climate Plan fails to set and execute the warranted prioritizing of climate action (as I have commented to ODF and the Board of Forestry).

Recommending that ODF “evaluate a bold set of scenarios” is all well and good in a business-as-usual world. But “evaluation” in lieu of action is another misplaced priority for a

Commission that is supposed to be stepping up our response, in both scale and urgency, to the destructive climate effects already upon us. Consider how the 2021 Oregon Legislature just acted with respect to reining in electric utility greenhouse gas emissions to 80% below current levels by 2030 and 100% below by 2040. This goal, joined in by the regulated utilities, sets a marker that these Commission recommendations should at least aim to replicate.

The three areas of emissions policy most critical to **early** reductions in net emissions are utilities, vehicles and forest carbon. With this in mind, surely the Commission can stipulate to ODF that scenarios and commensurate actions to be adopted in its climate strategy must, at a minimum, achieve the 9.5 MMTCO₂e/year goal urged upon the Commission above. Harvest levels and rates must be adjusted to accommodate this goal, and not the other way around.

Proposing such a minimum threshold and urging ODF to examine the effects of different but aggressive ramp rates to 2030 that reflect the urgency of the moment, would more clearly signal the Commission's sense of what our climate emergency demands, now and not several studies down the road.

Dear Oregon Climate Warming Commission,

If EO 20-04, the Governor's climate directive to state agencies, if it is to reach its full potential, it must articulate an architectural framework of carbon reduction goals that target measurable 7.6 - 8% reduction goals of GHG emissions annually for all agencies. Individual Department climate mitigation strategies with their performance measures, must clearly refer to a projected annual GHG reduction number. Those GHG reduction numbers must apply to the industrial sector(s) governed by the Department agency. The Department's accumulative reduction should represent its' portion or fraction of Oregon's state-wide annual reduction goal, collectively adding up to 100%. For example, Department of Forestry, Department of Agriculture, Department of Energy, ODOT (Transportation), Department of Commerce (Building Codes), DLCDC (Land Use), should all have a numeric fraction of the state GHG emission reduction goal related to the 7.6 - 8% annual reduction and collectively representing 100% of the specific annual goal.

Unless EO 20-04 establishes a measurable numeric clarity, an architecture that informs the reality of climate smart decisions and actions with a coherent design, it will lack relevance and ill serve the public, the state, the Department and other stakeholders. The time for a clear, transformative Oregon climate mitigation architecture, with transparent annual performance measurables of GHG emission reductions, is now.

Oregon is presently experiencing a historic drought, with wildfires throughout the state, wide spread loss of biodiversity, ocean dead zones, loss of snow pack, water scarcity, soil erosion and extreme elevated temperatures in our urban and rural landscapes. Anything less than a clear carbon reduction architecture in the EO20-04 structure will waste valuable time and public financial resources, lead to climate anxiety, loss of trust in the legislative process, and erode the natural terrestrial and marine beauty of Oregon. The Oregon Climate Warming Commission has the science based technical data to help articulate a relevant layer of EO 20 -04 critical climate information. Now is the exquisite moment to

give substance and relevance to EO 20 - 04 and demonstrate the integrity of science action for Oregonians, with species meritocracy and community well being for all.

Respectfully Submitted

Artemio Paz Jr.

Architect, Forester (52 yrs), and Organic Farmer (31 yrs)

86950 Cedar Flat Road,

Springfield, OR 97478

Dear Chair Macdonald and members of the Oregon Global Warming Commission (OGWC):

I appreciate the hard work that the OGWC, the Oregon Department of Forestry (ODF), the Oregon Department of Agriculture (ODA), and other agencies are doing to find climate solutions, create consensus, and provide bold leadership in these challenging times. It is evident that much hard work, careful analysis, and creativity went into the [draft Natural and Working Lands \(NWL\) Proposal](#) published on July 19, 2021.

I am grateful for your attention to the attached comments, especially as I have until now been absent from the public comment process. In May 2021, I became the senior researcher for Sightline Institute's Farms & Forests program. Our mission is to help make the Pacific Northwest a global model of sustainability and lasting prosperity through research-based analysis and innovative thinking. With an M.S. in agricultural economics and a Ph.D. in environmental science, I have long thought and cared about how to leverage markets, government programs, and human ingenuity to advance the sustainability of our natural and working lands.

I admire and commend the OGWC's transparent and inclusive public engagement process and it appears that the Draft Plan reflects the wide range of public comments and questions.

As the recent heat-related deaths and species-threatening drought in Oregon make clear, and as the NWL proposal asserts, "we need as much climate repair as possible, as soon as possible." **This is why the OGWC's NWL proposal should be strengthened in the ways described in these comments.**

Yours sincerely,



Kathryn G. Anderson



Kathryn (Kate) Anderson, PhD
Senior researcher, Farms & Forests

I live and work on the traditional lands of the Coast Salish peoples, including the dxʷdəwʔabš (Duwamish) People, both past and present.

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Sightline Comments
OGWC NWL Proposal

August 1, 2021

Dear Chair Macdonald and members of the Oregon Global Warming Commission (OGWC):

I appreciate the hard work that the OGWC, the Oregon Department of Forestry (ODF), the Oregon Department of Agriculture (ODA), and other agencies are doing to find climate solutions, create consensus, and provide bold leadership in these challenging times. It is evident that much hard work, careful analysis, and creativity went into the [draft Natural and Working Lands \(NWL\) Proposal](#) published on July 19, 2021.

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I admire and commend the OGWC's transparent and inclusive public engagement process and it appears that the Draft Plan reflects the wide range of public comments and questions.

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Yours sincerely,

A handwritten signature in black ink, appearing to read 'KGA' with a stylized flourish extending to the right.

Kathryn G. Anderson

Comments on the OGWC EO 20-04 Draft Natural and Working Lands Proposal

Kate Anderson, Sightline Institute

August 1, 2021

We would like to underline several aspects of the OGWC Draft Proposal that we strongly support. We also urge the OGWC to emphasize the transition to improved forest management, to add GHG emissions reductions strategies from farms and forests, and to develop safeguards ensuring that climate payments benefit all Oregonians.

The current plan contains many important ideas and actions, three of which deserve specific mention:

1) Expansion and professionalization of the technical assistance and conservation workforce.

We enthusiastically support and commend the OGWC for identifying the strategies under recommendation E: “Expand climate-smart protection, restoration and improved management training and technical assistance programs,” as well as under strategy (2): “Strengthen education, engagement, and technical assistance efforts.” The OGWC correctly assesses that staff resources in the Soil and Water Conservation District, watershed councils, OSU extension and other technical assistance organizations are already stretched too thin, and the legislature should invest additional funds to support technical assistance providers.

THE OGWC should further specify that:

- a) Important measures include increasing the number of Conservation District staff and forest health management personnel, providing competitive salaries and benefits, and possibilities for career advancement.
- b) Producer-driven research and farmer-to-farmer training pedagogy are two important coordination roles for an expanded professional conservation workforce.
- c) Professionalization of the technical assistance and conservation workforce should include programs tailored to BIPOC, historically excluded people, immigrant producers, beginning farmers/foresters, and land users from all parts of the state and all sectors, including recruiting new staff from these groups.

2) Emphasis on avoiding conversion of existing forest and agricultural land.

[Avoided forest conversion is one of the lowest-cost natural carbon sequestration solutions.](#) The DLCD is undertaking vital climate work in directing residential development to “urban areas where people can walk, bike, or take transit to meet their daily needs” in a low carbon way. We support the OGWC’s recommendation that the “legislature fund and direct DLCD to support and advance landscape level planning as well as community level planning that evaluate the carbon sequestration benefits of land-use scenarios as part of this planning process.”

3) Plans for fuel reduction treatments including thinning and the application of prescribed fire.

Reducing the carbon emissions from wildland forest fires is a key part of Oregon's climate response. The OGWC presents compelling evidence and a wise set of strategies towards this end. A professional fire prevention workforce that has personnel numbers and training commensurate with the enormous need and importance of this activity is an important part of the expansion and professionalization of Oregon's technical assistance and conservation workforce.

We believe the OGWC Proposal should be strengthened in the following ways:

1) More strongly emphasize and specifically strategize how to sequester more carbon in Oregon's forests through transition away from high-disturbance clear-cut logging practices and toward improved forest management that maximizes carbon storage, ecosystem co-benefits, and wood product quality and quantity.

[Fargione et al. \(2018\)](#) suggest that **improved forest management** could provide immense climate change mitigation at some of the lowest costs relative to other mitigation options. Many of these practices could be implemented rapidly without changes in land use or tenure. Selective harvest logging and longer rotations can ultimately yield more carbon per acre and more wood product per acre while also providing vastly superior ecosystem co-benefits compared with highly disturbing clear-cut logging. Harvesting trees closer to their CMAI (roughly 30-55 years older than current practices for Douglas Fir, according to the [NRCS](#) and the [USFS PNW Research Station](#)) maximizes timber production and carbon sequestration and produces stronger, higher-quality lumber for construction, including for [replacing more carbon intensive building materials](#). The OGWC should strength its Proposal in the following ways:

- a) Regarding forest management and timber harvest practices, **OGWC's Plan should more strongly recommend specific forest management practices and should identify specific CO₂ sequestration targets, measured in acres and MMTCO₂, on public and private lands.**
- b) Currently, the Draft Proposal defers to the Forest Accord Process and the ODF's eventual response to two on-going research projects. The Plan should specify how (for public and private lands) the OGWC and the ODF will act if it judges that these outcomes fail to meet the CO₂ sequestration targets specified in the OGWC Plan (described above).
- c) Currently, longer rotations is mentioned as a possible "bold scenario" to be evaluated after the two ODF collaborative research studies have been completed. However, ***we already have sufficient scientific evidence to know that this is a key climate mitigation strategy and we should not wait on implementing it to the extent possible through financial incentives, modifications to the tax code, or regulatory adjustments.***
- d) In the current Draft Proposal, patch and selective logging practices are only mentioned in Appendix B, and variable retention harvesting, reductions in the size of clear-cut openings, reduced herbicide use, and retaining a higher residual volume at harvest are not mentioned anywhere in the Draft Proposal. Yet these represent some of the greatest potential for Oregon to fight climate change, and a plan for how to implement these practices should be specified in the OGWC Plan's main text.

- e) Expanding riparian buffer widths and increasing riparian buffer protections would advance important biodiversity goals and increase carbon sequestration, albeit at greater cost in yield compared with the above-mentioned practices. According to [Cook-Patton et al. \(2020\)](#), reforesting on areas within 30 meters of Oregon streams could sequester an additional 202,000 tons of CO₂. The OGWC Plan should identify strategies to increase riparian protections.
- f) A goal and strategy for reforestation should also be explicitly included in the OGWC Plan. Altogether, reforestation opportunities in Oregon could sequester [3.43 million metric tons CO₂](#).
- g) The ODF should also explore options to compensate landowners for increased logging costs from reduced-impact logging and for an initial reduction in near-term yields from extended harvest cycles. We support the OGWC's recommendations that federal incentive programs be utilized and that necessary state investments be made to qualify for maximal federal support.

2) Include plans for reducing GHG emissions from Oregon's forest sector, in addition to sequestration.

Oregon's forest sector emissions [averaged 40 MMTCO₂e per year from 2011-2015](#), accounting for about 39% of total state emissions across all sectors. Emissions result from fuel burned by logging equipment, the hauling of timber, milling, wood burned during forestry activities, and the ongoing decomposition of trees after they are cut. In addition, forest wildfires accounted for between one-fifth and one-tenth of total forest-sector emissions, depending on the fire year.

Because of the magnitude of forest sector emissions, we strongly suggest that the OGWC Plan identify specific reduction targets, as well as strategies and collaborations to achieve them. For the latter (collaborations), it would be helpful if the plan included a brief summary of what agencies have plans for reducing forest sector emissions.

While emissions reduction was not one of the two actions named in paragraph 12 of EO 20-04 (Directives to Oregon Global Warming Commission), paragraph 12 specifically states that these named actions are "in addition to the general directives set forth in paragraph 3," which include the directives for the OGWC, the ODF, and the ODA to "exercise any and all authority and discretion vested in them by law to help facilitate Oregon's achievement of the GHG emissions reduction goals" and to "prioritize and expedite any processes and procedures, including but not limited to rulemaking processes and agency dockets, that could accelerate reductions in GHG emissions."

If Oregon is to meet its emissions reduction goals of a reduction to 32 million metric tons CO₂e (MMTCO₂e) in 2035 and 12 MMTCO₂e in 2050, then it will need to substantially reduce forest and agriculture sector emissions, and not only think of NWL as sinks.

3) Include plans for reducing GHG emissions from Oregon's agriculture sector, in addition to sequestration.

Oregon's agriculture sector emits about [5.7 million metric tons CO₂e](#) per year, primarily from methane and nitrous oxide.

We urge you to specify plans to reduce the 2.7 million metric tons of CO₂e in methane emissions from Oregon's ruminant livestock, and the 2 million metric tons of CO₂e in nitrous oxide emissions associated with the application of nitrogen fertilizers to agricultural soils.

Specifically, we urge the OGWC Proposal to:

- a) Include a discussion of how ODA should incorporate the goal of reducing emissions into their regular activities and what specific new programs would help achieve this goal.
- b) Include plans for how the OGWC and the ODA will help producers transition to farm systems that eliminate most, if not all, need for synthetic nitrogen fertilizer. Some such practices include: multiple crop rotations, intercropping, diverse cover crops, compost and other in-farm fertility (minimal external nutrients).
- c) Specify that agencies should prioritize the reduction of methane produced from raising ruminant livestock, which alone accounts for [nearly 4.5% of Oregon's total GHG emissions](#). Because ruminant livestock markets are global, a coordinated nationwide effort is needed, including trade considerations, to reduce methane emissions. Oregon can provide vital leadership in these efforts. The OGWC Proposal should specify actions the ODA can take to work with the USDA, congress, and the National Association of State Departments of Agriculture towards the following goals: **1)** End direct and indirect [price-distorting government subsidies](#) that benefit the livestock industry, including those to soybean and corn growers, so that the prices of animal protein more accurately reflect their true market costs. **2)** Explore how incentives to reforest on pasture land could help compensate producers who reduce their ruminant herds. (This conforms with OGWC's proposed action to "Develop a strategic plan for expanding capacity for reforestation in Oregon," under strategy 3(c). [Pasture provides about 32%](#) of the total carbon sequestration opportunity available from reforestation in Oregon, or about 1.12 million metric tons CO₂.) **3)** Work to educate consumers about the health and climate benefits of plant-rich diets, including marketing plant-based recipes and lifestyles. **4)** To the extent that manure digesters are part of OGWC's and ODA's climate action plans, efforts should be made not to disadvantage family-scale farms whose production is too low for digesters to be cost-effective.

4) Include specific plans for how to ensure that carbon incentives promote equity and strengthen Oregon's rural communities

The Draft Proposal takes the important step of prioritizing the identification of funding mechanisms to compensate landowners and managers for climate stewardship practices.

- a) Oregon agencies should ensure that those who are already implementing climate-smart agricultural practices and forest management are eligible for new incentive and funding programs. These producers have often innovated at their own expense, providing important demonstrations, and it would be unfair and counterproductive to punish them for their risk-taking while rewarding other land managers who were slower to innovate.
- b) Oregon agencies should ensure that climate payments do not directly or indirectly disadvantage or discriminate against smaller or historically marginalized operators. If we are to learn from our mistakes in the past, we must be aware of how payments have disproportionately benefitted larger and wealthier land managers, often in indirect ways. Often smaller land managers and historically marginalized groups have been substantially less able to take advantage of government programs. Specific plans should be developed to ensure equity.
- c) Much of Oregon's farmland and forestland is owned by institutional investors. Sightline supports evaluating potential payment mechanisms with respect to where the money ultimately goes, with preference for mechanisms that keep climate payments and profits local in the Oregon economy, contributing to flourishing, local, circular economies.

Please find attached comments of the Confederated Tribes of the Umatilla Indian Reservation Department of Natural Resources on the Draft Natural and Working Lands Proposal before the Oregon Global Warming Commission.

Feel free to contact me at this email or the numbers below if there are any questions or problems with this transmission.

A

Audie Huber
Intergovernmental Affairs Coordinator
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CTUIR DNR 8 2 2021
letter to OGWC.PDF

Treaty June 9, 1855 ~ Cayuse, Umatilla and Walla Walla Tribes

Confederated Tribes *of the*
Umatilla Indian Reservation

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August 2, 2021

Catherine Macdonald, Chair
Oregon Global Warming Commission

550 Capitol St. NE
Salem, OR 97301
Submitted Electronically to: oregon.GWC@oregon.gov

Dear Chair Macdonald and Commission Members

The Confederated Tribes of the Umatilla Indian Reservation (CTUIR) Department of Natural Resources (DNR) has reviewed the Draft Natural and Working Lands Proposal (Proposal). The Proposal calls for a number of actions that will seek to address the role public and private sector lands can play in climate change planning. Of concern to the CTUIR DNR is the creation of another working group on climate change, the Natural and Working Lands Council. Any effort to create such a measure must be carefully balanced against the need to coordinate with all existing boards and commissions. Additionally, consistent funding, staffing and clearly outlined authorities are critical in undertaking such an effort. At this time, the CTUIR DNR recommends that prior to adoption, these critical details be addressed in an amended proposal and circulated for review as appropriate.

Indigenous people are the original stewards of this land, and tribal culture/lifeways have survived thousands of years and kept people prosperous through other world-ending events and climatic changes. It would be useful to know how many tribal climate action plans were referenced by the teams developing action plans and this Proposal as well as how partnerships with is the CTUIR and other Oregon tribes are being explored in this process. Many Pacific Northwest tribes have excellent climate adaptation plans, and none appear to be mentioned in this proposal. This Proposal is a good place to start for centering Indigenous knowledge in climate policy.

The CTUIR DNR looks forward to continuing our work with your Commission and appreciates the appointment of Cheryl Shippentower from the CTUIR to the Commission. If you have any questions regarding this letter, please contact me at the numbers above, or Audie Huber, DNR Intergovernmental Affairs Coordinator at 541-429-7228.

Respectfully,

Eric Quaempts, Director
Department of Natural Resources

To the Global Warming Commission:

The release this month of the Secretary of State's audit of the Oregon Forest Resource Institute revealed a troubling picture of a powerful industry exerting great efforts to silence or intimidate researchers whose work challenged industrial forest management practices.

In its exhaustive and thorough treatment of sequestration on Oregon's natural and working lands the Commission recommends many positive

steps to the Governor. Yet the question remains how much science has been lost because of years of OFRI's illegal suppression of peer reviewed forest science, particularly regarding forest carbon sequestration. In her testimony before the Oregon House Committee on Business and Labor, OSU Professor Emeritus Dr Beverly Law reported a pervasive climate of fear among researchers on forest issues at OSU. And the ground-breaking peer-reviewed work done by Dr Law and Dr Mark Harmon, also recently retired, languishes in a college department where the kind of forest carbon research done by Law and Harmon is no longer supported.

When two world-leading forest carbon researchers struggle for recognition and acceptance while their own University turns its back on them it becomes clear that the intimidation and coercion fostered by OFRI has had its effect. If Oregon is to be able to regain the leading edge in forest carbon research, as is appropriate to a state with our great forests, the Commission should consider proposing a new research institute responsible for forest carbon research independent of Oregon's powerful timber industry and OSU.

To the report's first goal:

Address the Urgency of Climate Action: The goal should be bold, ambitious, and practical. Oregon should strive to be a national and global leader in carbon sequestration and GHG emissions reductions.

Propose modification: "The goal should be bold, ambitious, and practical. Oregon should strive to be a national and global leader in carbon sequestration, forest carbon science, and GHG emissions reductions."

Making Oregon the leader in forest carbon science will continue to push the boundaries of discovery of the mysteries of the forest carbon cycle, create opportunities for Oregon schoolchildren seeking careers in next generation forest management and help generate a new, ecosystem-sensitive kind of forestry for Oregon and the world.

Fergus Mclean

38574 Dexter Road

Dexter, OR 97431

To: The Oregon Global Warming Commission
Re: Draft Recommendations for NWLs - Forestry Section

As a long time family forestland owner and manager who works hard to make a living from 1300 acres of Western Oregon forest land I support the OWC's recommendations for forestry. We have long been FSC certified and long practiced "climate smart" forestry. My concerns are that the recommendations are not strong enough nor urgent enough in the face of the situation we are in today. Had we done this 30, or maybe even 20 years ago it would have helped.

- We must not log after fires except in rare and specific situations
- We must not allow slash pile burning at all (we have logged annually for over 30 years and never burned a pile of slash.)
- we must fund adequate bio char research (if more is needed) and fund/incentivise its use as an alternative to burning piles. It sequesters most all the carbon and doesn't cause smoke.
- Reforestation is excellent but it is very important to have the right species for the right site and to fund or incentivise site preparation and especially tree maintenance until seedlings are free to grow (above the competition). Otherwise likely a waste of time and resources.
- Hardwood species mixed in or in general add greatly to healthy ecosystems in most places. They often act as firebreaks because of their non-oily green leaves.

I think the growing and harvesting of trees should no longer be the mission of ODF. The non-timber values provided to society by healthy forests in 2021 (clean, abundant water, rich soil, clean air, biodiversity, etc.) are greater than the lumber value if our #1 goal is to have a livable planet. Public money must be devoted to these non-timber values as they accrue to all Oregonians.

It is of the utmost urgency that ODF not just respond in some nice words to the OGWC's recommendation but that they, with great haste, create a plan with a strict timeline for implementing the recommendations.

Sincerely,
Sarah Deumling
The Zena Forest
Polk County, OR

Sent via form submission from [Keep Oregon Cool](#)

Name: Susana Gladwin

Email Address: susanagladwin@yahoo.com

Subject: NWL Proposal

Message: Our NW forests are always spoken as an extremely important resource for carbon capture yet in the Comprehensive plan goal 4 forestry the main goal is managing our forests for 'commercial use'. There is no mention of the importance of our forests for their ability to capture carbon and store it which is critical in facing our climate emergency. Please prioritize and protect our forests ability to capture and store carbon.

Dear Chair Macdonald and Members of the Oregon Global Warming Commission,

This office represents the Oregon Shores Conservation Coalition. Please find attached Oregon Shores' comments on the OGWC draft NWL proposal. Please confirm receipt of this email and attached documents.

Thank you for your time and consideration.

Sincerely, Anu

--

Anuradha Sawkar (*She/Her/Hers*)

Associate Attorney

[Crag Law Center](#)

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Protecting and Sustaining the Pacific Northwest's Natural Legacy.



2021.08.02 FINAL Or.
Shores Comment OG'

August 2, 2021

Oregon Global Warming Commission
550 Capitol St. NE
Salem, OR 97301

Via Email to: oregon.GWC@oregon.gov

**Re: Oregon Global Warming Commission Meeting
OGWC Draft Natural and Working Lands Proposal
Public Comments of Oregon Shores Conservation Coalition**

Dear Chair Macdonald and Members of the Oregon Global Warming Commission,

On behalf of the Oregon Shores Conservation Coalition and its members (collectively “Oregon Shores”), thank you for the opportunity to provide feedback on the Oregon Global Warming Commission’s Draft Natural and Working Lands Proposal.¹ Oregon Shores is a nonprofit organization dedicated to protecting the Oregon coast’s natural communities, ecosystems, and landscapes while preserving the public’s access to these priceless treasures in an equitable and ecologically responsible manner. For half a century, Oregon Shores has been a key public interest participant in a wide range of policy decisions and legal processes with the potential to impact the coastal environment, including land use, water quality, shoreline management, and climate resilience issues. Climate change already affects every aspect of the coastal environment, and thus affects every aspect of Oregon Shores’ work and programs. Please notify us of any further decisions, reports, notices, or amendments related to the NWL Proposal, including any public hearings or future public participation opportunities before the Commission on this matter.

¹ See OGWC, *Draft OGWC Natural and Working Lands Proposal*, (July 19, 2021) [hereinafter *NWL Proposal*], https://static1.squarespace.com/static/59c554e0f09ca40655ea6eb0/t/60f737589d6bda5505afe9bd/1626814298768/Draft+OGWC+Natural+and+Working+Lands+Proposal_v3.pdf.

Oregon Shores Conservation Coalition

Public Comments on OGWC Draft Natural and Working Lands Proposal

2

Governor Brown’s Executive Order 20-04 on climate action tasked the Oregon Global Warming Commission (“OGWC” or “Commission”) with developing a proposal (“NWL Proposal”) to establish state goals for carbon sequestration and storage on Oregon’s natural and working lands including forests, wetlands, and agricultural lands.² On July 19, 2021, OGWC released a draft of the NWL proposal outlining its recommended carbon sequestration goals as well as the strategies and policy options required to achieve them (including the development of Oregon’s first natural and working lands inventory).³ Oregon Shores strongly believes that an equitable, climate resilient approach (i.e., focusing on mitigation and adaptation) is required to effectively respond to the challenges of climate change on the Oregon Coast. This, of course, requires reducing greenhouse gas emissions (GHGs), which are responsible for warming ocean temperatures, sea level rise, and increasingly extreme weather events. To this end, the draft NWL proposal represents an important first step in improving Oregon’s overall climate mitigation efforts by harnessing the natural climate solutions inherent within our state’s natural and working lands, and will also likely yield significant climate adaptation, equity, and resilience co-benefits. Oregon Shores previously joined 24 different organizations, including conservation and other non-governmental groups representing thousands of Oregonians, in a letter supporting the inclusion of “blue carbon” habitat within the Commission’s draft NWL Proposal for the Governor.⁴ Oregon has an incredibly carbon-rich and biodiverse landscape that supports clean

drinking water, food, jobs, wildlife habitat, cultural significance, and outdoor recreation opportunities for millions of Oregonians. Our coastal lands offer tremendous potential to sequester carbon on the landscapes and should be prioritized as key natural climate solutions. Current carbon stocks in Oregon’s coastal wetlands amount to at least 83.7 million metric tons CO₂ equivalent (CO₂e), largely driven by substantial soil carbon stocks (found in deep soils) accumulated over centuries to millennia. This is equal to taking more than 18 million cars off the road. For every thousand acres of restored forested tidal wetlands, roughly 212,500 metric tons of CO₂e could be sequestered by 2050, while providing significant benefits to fish, wildlife, and coastal economies. Yet, the state agencies responsible for managing these natural resources have struggled to evolve to meet the state’s current needs—especially in the face of triple threats from the climate crisis, severe drought, and the biodiversity crisis. Oregon Shores strongly believes that the NWL Proposal will provide the guidance necessary to support improved state agency management of coastal lands as climate solutions.

Oregon Shores is strongly interested in promoting Oregon’s natural and working lands as climate solutions, with a specific focus on elevating the critical role healthy coastal and subtidal landscapes play in capturing and storing carbon. We offer these comments on the draft NWL Proposal to support the OGWC’s efforts, and with the goal of ensuring the first version of this document will develop a strong carbon sequestration proposal for Oregon’s natural and working coastal lands and blue carbon habitat.

² EO 20-04, (March 10, 2020), available at https://www.oregon.gov/gov/Documents/executive_orders/eo_20-04.pdf.

³ <https://energyinfo.oregon.gov/blog/2021/7/15/oregon-global-warming-commission-to-meet-virtually-on-august-4>; <https://www.keeporegoncool.org/meeting-calendar/2021/8/4/oregon-global-warming-commission-meeting-virtual>.

⁴ OGWC, *Public Comments for May 7, 2021 Meeting*, 10-12 (Apr.2021),

https://static1.squarespace.com/static/59c554e0f09ca40655ea6eb0/t/609992383884855af32723fb/1620677178079/OGWC+Public+comments+for+5.7.2021_final.pdf

Oregon Shores Conservation Coalition

Public Comments on OGWC Draft Natural and Working Lands Proposal

3

Specific Comments – Coastal Lands, Wetlands, and Watersheds

Oregon Shores is highly encouraged that the OGWC’s draft NWL proposal includes coastal “blue carbon” habitats within its baseline inventory and projections, as well as its development of carbon storage and sequestration goals.⁵ Oregon Shores generally agrees with and applauds the Commission’s focus on the significant potential to sequester “blue carbon” in Oregon’s tidally-influenced coastal wetland ecosystems, and emphasis on increasing protection, conservation, and restoration of these habitats.⁶ In particular, Oregon Shores is encouraged that the draft NWL Proposal:

- Recognizes studies which demonstrate that Oregon’s tidally-influenced coastal wetland ecosystems are carbon rich and function as important natural carbon sinks, comparable to the Pacific Northwest’s old growth forests.⁷

- The coastal and subtidal landscapes found in Oregon’s estuaries – when intact and restored – represent important carbon sinks, but they also can become sources of emissions when degraded. As such, Oregon Shores strongly urges the Commission to explicitly recommend that existing and proposed degradation of blue carbon ecosystems be considered in both GHG accounting and reduction efforts in conjunction with NWL climate solutions.

- Recognizes that Oregon’s coastal wetlands are currently degraded compared to historic levels.⁸

- Oregon Shores strongly urges the Commission to recognize that degradation of Oregon’s coastal wetlands, particularly forested tidal wetlands, is due to past land use practices.⁹ This includes diking, draining, and other forms of conversion.¹⁰
- The Blue Carbon White Paper demonstrates that science and information is ready and available to inform meaningful and effective incorporation of coastal “blue carbon” habitats into state and local level policy efforts that seek to reduce GHGs.

⁵ *NWL Proposal* at 3, 6, 8, 14-16.

⁶ Tidally-influenced coastal wetland ecosystems (also known as coastal wetlands) include marshes, eelgrass beds, kelp forests, scrub-shrub wetlands, and forested tidal wetlands (also known as tidal swamps). These are collectively known as “blue carbon” habitats for their ability to store and sequester greenhouse gases (GHGs).

⁷ *NWL Proposal*, 14. See also Pew Charitable Trusts, et. al., *Incorporating Coastal Blue Carbon Data and Approaches in Oregon’s First Generation Natural and Working Lands Proposal*, 1 (July 2021) (citing Kauffman et al. 2020, and comparing tidal wetlands on a per acre basis) [hereinafter *Blue Carbon White Paper*], https://static1.squarespace.com/static/59c554e0f09ca40655ea6eb0/t/60f730b551711a51b42b2096/1626812615093/OR+NWL+BC+data+and+approaches+white+paper_final+draft.pdf. This white paper was published and submitted to OGWC in conjunction with the draft NWL proposal by Pew Charitable Trusts, the Oregon Department of Land Conservation (DLCD), the DLCDC’s Oregon Coastal Management Program, Silverstrum Climate Associates, and PNW Blue Carbon Working Group.

⁸ *NWL Proposal*, 14 (“Since the 1850s, 58 percent of Oregon’s emergent tidal wetlands and over 70 percent of Oregon’s forested tidal wetlands – combine just over 70,000 acres – have been converted to other land uses reducing or eliminating their ability to sequester more carbon (Beers et al 2021)”).

⁹ *Blue Carbon White Paper*, 3 (citing Brophy 2019) (“Although forested tidal wetlands historically comprised over half of Oregon’s total tidal wetland area (60%), nearly all these unique wetlands (95%) have been lost along the Pacific coast of Oregon (not including the Columbia River estuary) due to past land use practices”).

¹⁰ *Blue Carbon White Paper*, (citing Marco and Pilson 2017; Brophy 2019).

Oregon Shores Conservation Coalition

Public Comments on OGWC Draft Natural and Working Lands Proposal

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- Emphasizes the importance of leveraging federal funding for sequestration projects in Oregon. This is particularly important for coastal communities, given the potential federal funding available through the DLCDC’s Oregon Coastal Management Program (OCMP).¹¹
 - Oregon Shores strongly urges the Commission to recommend that DLCDC and ODF provide a plan and schedule by November 2021 to bring Oregon’s Nonpoint Pollution Control Program (CNPCP) into compliance with Coastal Zone Management Act Reauthorization Amendments of 1990 (CZARA).¹² This would ensure that the state is better leveraging federal funds to support planning assistance at the local level, as well as increase protection of blue carbon habitats.
 - Recognizes the importance of investments in estuary management plan updates in increasing protection and restoration of blue carbon habitats. The DLCDC, through the OCMP, is currently working with coastal communities to update estuary management plans (EMPs), most of which are decades old and based on outdated science and mapping.
 - These updates provide an opportunity for agencies and communities to elevate protection and enhancement of estuarine ecosystem services and advance adaptation, resilience, and greenhouse gas mitigation goals. EMP updates could apply this climate lens to assess land and water use planning, policy, and management.
- Oregon Shores asks that the Commission please consider the following relating to blue carbon sequestration and the carbon sequestration capabilities of coastal habitats generally:
- As blue carbon data gaps in the Pacific Northwest are addressed and as Oregon’s coastal mapping becomes more refined and targeted to address specific questions raised by the

Oregon coastal wetlands GHG inventory (OGGI), Oregon policymakers will have access to increasingly powerful tools to guide the development and implementation of effective coastal management strategies that help Oregonians and coastal communities mitigate the local effects of climate change.

- To increase transparency and to support appropriate, informed, and equitable decision-making, Oregon Shores strongly urges the Commission to specify that state decision-makers should set forth findings explaining how the best available scientific data as well as inventory and mapping tools informed policymaking in conjunction with its recommendation that the state re-evaluate and update outcome-based goals at least every four years.¹³

- This is particularly true as further data as well as inventory information becomes available about eelgrass beds and kelp forests.

¹¹ DLCD is the primary agency responsible for overseeing Oregon's federally approved coastal management program, authorized by the federal Coastal Zone Management Act (CZMA) and called the Oregon Coastal Management Program (OCMP). DLCD is also responsible for assisting the Land Conservation and Development Commission (LCDC), local governments, and state agencies in the implementation of Oregon's statewide land use planning goals (Goals).

¹² In January 2015, NOAA-OCM and EPA determined that, because of an unmet condition related to forestry practices, Oregon had not submitted an approvable coastal nonpoint pollution program, which by statute resulted in the withholding of 30 percent of CZMA Section 306 and CWA Section 319 grants. The impacts of the withheld grants, which totaled about \$2.6 million as of spring 2019, have been considerable. Specifically, the reduction of funding for the OCMP has resulted in the suspension of planning assistance grants for local governments in the coastal zone and the loss of two staff positions.

¹³ *NWL Proposal*, 5.

Oregon Shores Conservation Coalition

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- Conserving and managing existing blue carbon stocks and capitalizing on restoration opportunities will require broad-based public participation, and coordinated efforts of agencies, agriculture, and watershed councils working alongside sovereign Tribal Nations. The diffusion of existing management frameworks for blue carbon habitats, absent explicit or meaningful requirements for state agency/local government coordination or consideration of cumulative impacts, has meant destruction of these vital and vulnerable coastal ecosystems.

- Oregon Shores strongly urges the Commission to recommend that state agencies provide a plan to strengthen interagency coordination and consideration of equity, diversity, and inclusion in program planning and delivery in conjunction with OGWC's NWL Proposal generally and blue carbon strategies specifically.

- In particular, DLCD's OCMP should establish coordination requirements for land use decisions made by local jurisdictions and permitting decisions by state agencies (such as the Parks and Recreation Department and Department of State Lands) that impact blue carbon habitats.

- Oregon Shores strongly urges the Commission to recommend that DLCD and DSL move from "no net loss" programs to explicit management frameworks that require the avoidance of impacts to blue carbon habitats prior to relying on mitigation.

General Comments for all Natural and Working Lands

Generally, Oregon Shores is encouraged that the draft NWL Proposal:

- Centers climate-impacted communities, environmental justice, and tribal priorities and urges the state to consider community impacts.
 - The development and implementation of recommended programs and practices should focus on public health improvements and economic opportunities, prioritize removing barriers to access for disadvantaged communities (particularly with respect to public participation in decision-making), and reduce risks to disadvantaged and vulnerable communities from climate impacts.
- Recognizes the numerous co-benefits associated with increasing carbon sequestration on Oregon's natural and working lands.
 - Implementing and scaling up sequestration projects will improve soil health, increase water quality and quantity, and support fish and wildlife habitat, as well as improve the health and wellbeing of local communities and workers.
 - Healthy estuaries drive jobs in multiple sectors, protect against storms and floods, foster biodiversity, and help decrease our carbon footprint. As sea levels rise and infrastructure ages, these essential estuary habitats need space to move inland away from rising seas. At the same time, many coastal lands are becoming degraded through erosion and saltwater intrusion. Financial assistance could incentivize conservation and restoration in these coastal lands that are changing.
- Stresses the importance of providing climate-smart NWL management education and training to support an equitable and just transition.
- Recommends that a diverse Natural and Working Lands Council ("Council") be established and that the Council set a baseline for the outcome-based goal and the activity and community impact metrics.

Oregon Shores Conservation Coalition

Public Comments on OGWC Draft Natural and Working Lands Proposal

6

- The Council should also advise state agencies on implementation of the strategies included in this proposal.

Oregon Shores asks that the Commission please also:

- Recommend that state agencies provide a plan and schedule for new rules, budget requests, and legislative concepts to implement each of OGWC's recommendations by November 2021.
- Recommend continued opportunities for stakeholder engagement as the NWL Council develops metrics, state agencies begin to implement programs needed to meet the new carbon sequestration goal, and OGWC tracks progress toward meeting the goal.

Conclusion

As discussed above, Oregon Shores' comment generally supports the view that OGWC's draft proposal is strong, and represents an important first step forward for Oregon's natural and working coastal lands and blue carbon habitats. The Commission's NWL proposal includes one

of the nation's first strategies that explicitly accounts for the carbon sequestration powers of coastal habitats. If adopted, Oregon will be poised to be a national leader and an example for other states in harnessing blue carbon habitats in the fight against climate change, as well as supporting climate resilient coastal communities through the several co-benefits provided by these important habitats. We urge the Commission to use this first-generation document as a starting point for bold, evidence-based actions that move Oregon toward a natural climate mitigation solution that works for everyone.

We thank you for the opportunity to comment on the Commission's efforts relative to natural and working lands on the coast and look forward to continuing to engage as the work progresses.

Sincerely,

Phillip Johnson
Executive Director
Oregon Shores Conservation Coalition
P.O. Box 33
Seal Rock, OR 97376
(503) 754-9303
phillip@oregonshores.org

To: Chair Cathy Macdonald and members of the Oregon Global Warming Commission

Please consider this e-Mail to be my individual comments for the August 4th Oregon Global Warming Commission (OGWC) meeting. I have attached a copy of the LWVOR testimony for the 7th meeting of the Climate Protection Program Rules Advisory Committee for reference.

Because the world is experiencing a Climate Emergency, I support the rapid implementation of the Governor's Executive Order 20-04.

I was looking forward to seeing the material for the second agenda item before submitting comments related to OGWC's plans for its role in the overall implementation of EO 20-04. There are a few areas I am especially concerned about that I hope the OGWC is taking into account.

As was discussed in the LWVOR comments attached below, I do not believe the rules as presented so far are ready for implementation to start on January 1, 2022. The attachment presents some changes I hope will be made in the final draft rules or as a result of the public comment period. Unfortunately, draft 2 is already being used, for example, in the natural gas utility modeling as specified by the PUC.

I am especially concerned with the lack of coordination among the many programs regulating greenhouse gas emissions and the frequently associated co-pollutants. For example, five of the stationary sources expected to be regulated by the Climate Protection Program are on the CAO Group 1 and 2 call-in list and an additional three are in the Regional Haze program. There are a number of programs dealing with transportation that may affect greenhouse gas emissions, directly or indirectly.

Thank you for this opportunity to provide comments.

Kathy Moyd



DEQ CPP RAC 7
Comments 2021 07 1

The League of Women Voters of Oregon is a 101-year-old grassroots nonpartisan political organization that encourages informed and active participation in government. We envision informed Oregonians participating in a fully accessible, responsive, and transparent government to achieve the common good. LWVOR Legislative Action is based on advocacy positions formed through studies and member consensus. The League never supports or opposes any candidate or political party.
1330 12th St. SE, Suite 200 • Salem, OR 97302 • 503-581-5722 • lwvor@lwvor.org • www.lwvor.org

July 16, 2021

To:	The Department of Environmental Quality (DEQ) Climate Protection Program (CPP) GHGCR2021@deq.state.or.us
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Re: Comments for Rulemaking Advisory Committee Meeting 7

The League of Women Voters believes that climate change is a serious threat facing our nation and planet. The League believes that an interrelated approach to combating climate change—including through energy conservation, air pollution controls, building resilience, and promotion of renewable resources—is necessary to protect public health and defend the overall integrity of the global ecosystem.

Thank you for the opportunity to provide comments to the Department of Environmental Quality (DEQ) Climate Protection Program (CCP) for Rulemaking Advisory Committee (RAC) meeting 7. We acknowledge that you have a difficult task to implement a meaningful program under many constraints. **In particular, there is less than a month between the planned approval of the rules by the Environmental Quality Commission (EQC) in December and the required start of the program on January 1, 2022.**

We have been disappointed in the lack of detail regarding the program elements in the draft rules presented so far. It is not surprising that the information on forms to be filled out and the

recordkeeping requirements are very detailed, since DEQ has been monitoring air and water quality for many years. However, we do not feel the specific program details provided are sufficient to give the guidance necessary for the program. **In addition, the draft rules do not cover the integration of this program with other programs being developed or modified to implement EO 20-04, climate actions being taken by other agencies, and responses to future state and federal actions.** In particular, five of the stationary sources likely to be considered are also on the Cleaner Air Oregon Group 1 or 2 call-in list and three others are covered by the Regional Haze program.

Because we believe that updating the rules to provide sufficient guidance for the start of the program is the highest priority, we will be concentrating in this letter on those details that need to be pinned down for the first three-year compliance period. In addition to the lack of details, we also have concerns about some of the options selected by DEQ and we will include the critical ones here. Our comments about the program after the first compliance period will be presented during the public comment period.

We do appreciate that DEQ has responded to our request and those of many others that the final threshold for non-natural gas fuels be lowered from 200,000 MT CO_{2e} to 25,000.

League of Women Voters of Oregon Page 2
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We recognize that some decisions with which we previously disagreed, have been finalized and will not comment on them here. Given **HB 2021 has passed, the 100% Clean Energy bill, will eliminate almost all emissions from electricity sold in Oregon, whether it is generated here or imported, now we would like to see a consideration as to whether the CPP should eliminate the exemption for electricity generated in Oregon that is sent out of state.**

We do not have specific recommendations regarding the baseline or the cap trajectory, but just want to emphasize that the targets in the Executive Order are less stringent than what is scientifically considered to be necessary to stay below 1.5°C. The absolute minimum goal of the Program should be that the covered sources have reduced emissions to the 2035 and 2050 target values.

We have stated previously that we believe the usage of the various flexibility options should change throughout the program to ensure meeting the targets and possibly additional requirements for their use should be included. We will discuss only their use at the beginning of the program here.

At the beginning of each year, a covered source is given the number of Compliance Instruments (CI) equal to the number of metric tons of CO_{2e} it is allowed to emit. To allow for variation a compliance period of three years is set. For each metric ton of CO_{2e} emissions during a compliance period, the covered source must turn in a CI or Community Climate Investment credit (CCI), with the number of CCIs not exceeding 20% of its compliance obligation. We previously expressed our concern about Compliance Instruments (CI) being usable indefinitely. We see in draft 2 that the Community Climate Investment (CCI) credits are also usable indefinitely. In addition, a covered source is allowed to buy CCIs up to half of its

compliance obligation at a lower price than later in the program, meaning those above the 20% usage limit will have to be banked.

Making early reductions greater than required or buying excess CCIs will allow a covered source to use the banked CIs and CCIs to avoid having to reduce emissions. The modeling data show that in fact the highest use of banked CIs is in 2050 and the final emissions are above their cap. CCIs were used at high levels throughout the period. We therefore object to a CCI usage rate as high as 20%, the indefinite usage period for CIs and CCIs, and especially the 50% purchase limit for CCIs.

There is a lot of detail about the administration of the CCI process in draft 2. Although the DEQ provided proposed modifications to the CCI section at Meeting 7, it is still not specific enough with respect to the projects that can be funded. The assumption throughout the development of the program has been that each CCI credit must correspond to one metric ton of CO₂e emission reduction; we believe that this should be the requirement. We do agree that priority should be given to projects that also reduce other air contaminants and benefit communities that are disproportionately burdened by climate change, air contamination, and/or high energy burden.

League of Women Voters of Oregon Page 3

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Draft 2 provides that stationary sources would be subject only to a Best Available Emission Reduction (BAER) assessment and implementation, not a specified cap on emissions. We did not review the details of provisions applicable to stationary sources. However, we still believe that if BAER is used, this should be in addition to, not instead of, their having to reduce emissions according to a cap. It should also be kept in mind that many of the stationary sources are also generating toxic co-pollutants in vulnerable neighborhoods, so potentially they should have stricter requirements.

We have previously stated that the penalty for non-compliance needs to be large enough that it will not just be treated as “business as usual”. It was proposed at Meeting 7 that each metric ton of CO₂e above the compliance obligation will be treated as a separate violation, which would allow larger penalties without requiring additional authorization. We support this approach. We were very disappointed with the quality of the modeling results. There were obvious calculation errors, such as unreasonable values, or in one case, exact duplication of results for two scenarios. We also saw the dependence on a lot of very detailed variables, which could not possibly be predicted almost thirty years in the future. We decided that the only data we would seriously consider was the usage of the flexibility options; however, even that was not as useful as we would have expected, because the model built in a fixed hierarchy with CCIs first, (with usage allowed either if needed to reduce emissions **or if the cost of reductions were more than the cost of the CCI**), banked CIs second, and trading with another covered source third. Thank you again for considering our testimony. We look forward to encouraging progress in these efforts which are so important to the League, to Oregonians, and to the planet.

Rebecca Gladstone Claudia Keith Kathy Moyd

LWVOR President Climate Emergency Coordinator Climate Emergency Portfolio

Cc: [Richard Whitman](#), Director of Environmental Quality Commission DEQ

Dear Global Warming Commissioners:

Thank you for working diligently to address the climate solutions we can attain through our natural and working lands.

Attached are the comments from the Environmental Caucus of the Democratic Party of Oregon-approved through our leadership.

Catherine Thomasson, MD

Chair DPO Environmental Caucus

Thomassonct@gmail.com

503-819-1170



21.08.01 DPO
Comments GWC Draf

August 2, 2021

Global Warming Commission

cc. Board of Forestry and Agriculture members

Comments on the OGWC Draft Natural and Working Lands Proposal
Dear Global Warming Commissioners:

The Environmental Caucus of the Democratic Party of is very grateful for your strong work on the draft you have prepared to address the next steps for increasing carbon sequestration and storage on natural and working lands to comply with Executive Order 20-04 on climate. Increasing sequestration on natural and working lands and addressing the emissions of our current practices of logging, reduction in wetlands and farming are a large part of the solution to address climate change. A variety of excellent items are included.

- Calling for inclusion of climate-impacted communities, environmental justice and tribes
- Outlining the need for improved target emissions reductions and increased sinks will require far more per year than our current legislated target points to the need to improve our goals. (p5)
- Excellent references for plans already outlined in California, Maine and Massachusetts.
- Multiple co-benefits for improving forest and wetland sequestration including reduction of heat island, air quality, fish habitat, reduced storm surge impacts.
- Call for activity-based metrics that will help all Oregonians understand and appreciate the importance of new practices. (This might be applied to forests as well.)

We are very pleased to see an outcome-based goal of 4-7 MMTCO₂e per year by 2030 that is exclusive from any reduction in logging emissions, which is estimated in Oregon to be more than the emissions from transportation. We appreciate the call for science-based evaluation of carbon sequestration and evaluating new research to refine goals and strategies, though we request the Commission prepare a report every 2 years to coincide with the Its biennial report to the Legislature and would speak to the urgency of the issue.

You've hit the nail on the head identifying the need for funding. Federal funding for a variety of actions is essential for Oregon. Funding for agriculture producers that increases climate stewardship practices, reforestation, tapping into carbon compliance markets, reducing risk in climate smart management practices and support for wetland restoration are all needed.

State funding will be needed as well. We need funding for climate actions, education, and analysis within ODF, ODA, DLCD and OWEB along with an overarching directive Council. We would encourage

funding for the Global adequate analysis.	Warming Commission rather than a newly created Council with paid staff for
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Overall, we agree with the proposed strategies, though we recommend including relative benefits included in the final report as a mechanism for prioritization.

In the arena of agriculture and rangelands we are pleased to see the following:

- Identification of improved soil health from cover-cropping and reduction of soil loss
- Reduction in both need and use of nitrogen fertilizer-another source of GHG
- Riparian and "alley" management to improve water flow, lower temperature presumably by replanting trees and other strategic management
- Manure management. However, we would like to have this spelled out in terms of best methods to avoid methane emissions rather than methane capture which is faulty at best.

In the arena of forest sequestration and storage, we applaud the inclusion of reforestation, but caution that many post-fire lands do not require reforestation efforts that harm soils and increase roads. We agree with urban forestation and afforestation in areas that have been neglected. We appreciate your inclusion of longer logging rotations which increases carbon sequestration and storage while also increasing the mass of timber to be harvested in the future. We appreciate the call for revisions to the Oregon Forest Practices Act but there were no specifics. Increasing riparian buffers may come out of the current negotiations that are focused only on species and water protections. This action will increase carbon. However, those negotiations are not able to add additional criteria.

We do need improved incentives and regulations both for industrial and smaller private holdings. Developing this will require a larger panel of a wide array of people including those impacted by current logging practices and the climate impacts. Adequate funding for the OR Dept. of Forestry is essential to develop climate policies and incentives to increase carbon storage in our forests as only 19% of carbon is held in long-term wood products. This relatively low potential for carbon storage in wood products should lower its emphasis in the final report.

Several key strategies were left out and the use of the term climate-smart practices was not defined. The timber industry and the Oregon Department of Forestry have used this term for business as usual. However, research has shown that selective harvests (such as those that comply with Forest Stewardship Certification), leaving many more standing trees in a multi-species forest reduces carbon emissions and retains much more carbon than the practice of clearcutting. This is due to reduction in loss from soils, allowing logging refuse-to break down naturally and return carbon to the soils, as well as preserving an intact understory. This method of logging has many co-benefits such as improved watershed protection, habitat diversity for endangered species and maintenance of summer stream flows that are markedly reduced by plantation growth.

Regarding this, we encourage you to call for federal forest management to revisit all National Forest Management Plans. Your call for protection of mature and old growth stands along with high carbon storage potential lands on federal and state land is critical and we applaud it. However further actions on federal and state lands could be called for. Stopping all timber sales that allow clearcuts should be a strong first step. Allow selective logging only, as is being done on the Siuslaw NF where it is done to help fund improvements to avoid soil (and carbon) loss by closing unneeded roads, improving culverts. This has saved the Siuslaw NF money, and preserves jobs as it requires more loggers to perform timber

extraction due to inability to use machine mowing of trees. It also increases the funding potential for alternative jobs to support the local economy with rangers, biologists, stream repair, park improvements, trail building, harvesting other forest products, and more.

To incentivize and re-prioritize state forest management for carbon sequestration maximization, we recommend applying a social cost of carbon to budgetary decisions on timber cuts and all activities.

This may need legislation. In addition, recommending inclusion of a calculation to factor in protection of watersheds and avoidance of low summer flows to help direct forest management and reduce the impacts from the prolonged drought we are in due to climate change.

Lastly, we encourage you to include several other concepts including:

- Encourage legislation for policy protecting 30% of federal land by 2030.
- Reduction in post-fire logging and regulations to comply with current riparian rules, size of clearcutting and more.
- Require accounting of logging emissions reported to the Oregon Department of Energy
- Strong limits on biomass with no incentives, no export of chips, local use only and strict air quality requirements to reduce the threats in the nearer term for increase in carbon loss.
- Recommend that the related state agencies provide a timeline and develop a plan with needed budget requests and legislative concepts by November 2021.

Thank you again for your excellent draft. We are hopeful that it can be made even stronger.

Warm regards,

Catherine Thomasson, MD

On behalf of the Environmental Caucus of
Democratic Party of Oregon

Dear Oregon Global Warming Commissioners,

Thank you to the OGWC and partners for setting ambitious sequestration targets to sequester an additional 4 to 7 million metric tons of carbon dioxide equivalent per year in Oregon's natural and working lands and waters by 2030 (that are additional to emissions reductions goals). Your report centers around climate-impacted communities, environmental justice, and tribal priorities.

We support the recommendation to form both a Natural and Working Lands Council to establish a baseline for carbon sequestration on natural and working lands and a blue-ribbon panel to develop a strategic plan for how to adopt climate-smart forest management strategies in Oregon. We agree with the need for new funding and new capacity within Oregon's state agencies and the need to work with federal agencies to ensure federal lands are part of Oregon's NWL goal.

It is critical that we promote longer logging rotations on state and private forest lands and additional protections for mature and old growth forests as well as areas with high carbon storage potential and co-benefits for threatened and endangered species and improved water quality. Improvements must be made to Oregon's natural and working lands inventory data and the Forest Practices Act to continue to advance climate and carbon sequestration outcomes in Oregon's forests.

The state should support ODF's Urban and Community Forestry program to increase urban tree cover and improve living conditions in low-income neighborhoods and stressing the importance of providing climate-smart NWL management education and training to support an equitable and just transition.

Please also recognize that better protections for mature and old growth forests and better forestry practices on private lands will also contribute to the Biden Administration's goal to protect 30 percent of lands and waters by 2030 and help counter the biodiversity crisis. We need the state legislature to fund new climate change policy positions within the Oregon Department of Forestry to meet growing capacity needs.

With increased fires, we need to recognize that post-fire logging can result in significant carbon emissions that would have otherwise remained on the landscape for decades. We need to focus reforestation on ecosystems that are not able to recover naturally and avoid habitat conversion as a result of afforestation. Reforestation and afforestation can be useful climate-smart practices, but there must be safeguards in place to ensure that habitat (such as grasslands or wetlands) is not lost as a result. We should promote greater tree biodiversity, which increases carbon sequestration and resilience to pests and pathogens.

Please also recommend that the forestry sector emissions be included in Oregon Greenhouse Gas Sector-Based Inventory Data. The State Legislature should fund efforts to produce maps of remaining intact forests on public lands that identify forests with high carbon storage potential and biodiversity value.

Lastly, please also recommend continued opportunities for stakeholder engagement as the NWL Council develops metrics, state agencies begin to implement programs needed to meet the new carbon sequestration goal, and OGWC tracks progress toward meeting the goal. ODF (and related state agencies) should provide a plan and schedule for new rules, budget requests, and legislative concepts to implement each of OGWC's recommendations by November 2021.

Sincerely,
Dr. Martin Fisher
1849 SE 43rd Ave Portland, OR 97215-3117 martin.fisher84@gmail.com

Hi:

Please find attached the updated SOCAN comments on the draft proposal. Our specific suggestions are in red.

Thanks for the opportunity to comment.

Alan

Alan Journet
Co-facilitator
Southern Oregon Climate Action Now (SOCAN)
<https://socan.eco>

541-301-4107
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SOCAN Comments
on OGWC Proposal.p

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SOCAN Comments on the OGWC Draft Natural and Working Lands Proposal and the Need for Carbon Sequestration Incentives

Chair Cathy Macdonald and members of the Oregon Global Warming Commission:

As we know, the most authoritative assessment of the status of climate science is offered periodically by the Intergovernmental Panel on Climate Change. A particularly important report was the 2018 “[Global Warming of 1.5°C](#).” Among the critical conclusions therein offered were:

- (p. 4) Global warming is likely to reach 1.5°C between 2030 and 2052 if it continues to increase at the current rate.
- (p.9) Climate-related risks to health, livelihoods, food security, water supply, human security, and economic growth are projected to increase with global warming of 1.5°C and increase further with 2°C.
- (p.12) In model pathways with no or limited overshoot of 1.5°C, global net anthropogenic CO₂ emissions decline by about 45% from 2010 levels by 2030 (40–60% interquartile range), reaching net zero around 2050 (2045–2055 interquartile range).
- (p.15) Pathways limiting global warming to 1.5°C with no or limited overshoot would require rapid and far-reaching transitions in energy, land, urban and infrastructure (including transport and buildings), and industrial systems (high confidence).

Possibly most relevant to Oregon's current effort is:

- (p.17) All pathways that limit global warming to 1.5°C with limited or no overshoot project the use of carbon dioxide removal (CDR) on the order of 100–1000 GtCO₂ over the 21st century.

The point is that the IPCC recognized in 2018 that promoting carbon sequestration will be critical if we are to achieve the goal of limiting temperature rise to 1.5°C above pre-industrial conditions.

Presumably, it was recognition of this report that led the Governor, in her [Executive Order 20-04](#) (March 2020) to identify carbon sequestration as a critical goal for the relevant agencies. Thus Section 12 (p. 13) states:

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“In coordination with ODA, ODF, and OWEB the Oregon Global Warming Commission is directed to submit a proposal to the Governor for consideration of adoption of state goals for carbon sequestration and storage by Oregon's natural and working landscapes, including forests, wetlands, and agricultural lands based on best available science.”

The conclusion is clear: consistent with the 2018 IPCC report, the Executive Order charges the relevant state

agencies with developing a program to sequester (capture and store) carbon in our natural and working lands.

Promoting carbon sequestration in Oregon does not comprise a trivial add-on to the emissions reduction efforts

stimulated by the Governor's Executive Order. Carbon sequestration is a critical component of the program and

should be encouraged wherever possible.

The OGWC Draft Natural and Working Lands Proposal

Many aspects of the proposal seem exceptionally well thought-out and effectively enumerated. We are particularly delighted to see the recommendation to adopt climate smart management in the proposal.

There is

no doubt that forest management as currently practiced in the state, especially on our industrial forest lands, is

not climate smart, though proponents of current forest management often claim that they are. It is encouraging

also to see specific recommendations regarding extended harvest rotations as a means of promoting carbon

sequestration.

It is a very positive component of the proposal that it starts (p. 3) with Key Principles that:

“– Prioritize consideration of benefits to Climate Impacted Communities—including Black, Indigenous, and People of Color (BIPOC) communities, tribes, low-income communities, and other historically disadvantaged communities at greater risk to climate impacts;

“– Consider landowner and community interests;

“– Include provisions to ensure a diversity of landowners and managers can participate in any potential market- and incentive-based programs and provide meaningful climate benefits;”

Although “other historically disadvantaged communities at greater risk to climate impacts” are not defined, we infer and hope that these include rural communities. If so, it might be a good idea to state this specifically. We suggest this because one of the consistent criticisms of efforts to address climate change has been to identify these efforts as the product of liberal Portlanders trying to exert control of rural Oregon. *Specifically stating that rural Oregonians (not just landowners) constitute a disadvantaged community that could benefit economically from these programs might contribute to disarming that criticism.*

On p. 5, the proposal identifies worthwhile quantified goals of additional sequestration relative to the business-as-usual baseline. Since the Governor's Executive Order lists carbon sequestration under a separate section from the emissions reduction goals, I infer that these sequestration goals should be counted as additional also to any emissions reductions achieved through the actions of other agencies. This, then, raises a question as to whether any sequestration achieved as a result of funding from the DEQ Climate Protection Program's Community Climate Investment fund (as I suggest below) would end up being double-counted. One solution to avoid double counting would be to record carbon sequestration achievements as either (A) comprising Alternative Compliance within the Community Climate Investment fund of the Climate Protection Program, or (B) comprising sequestration additional to the Climate Protection Program.

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p. 6 IV Strategies. It is encouraging to see specific recommendations regarding forested wetland, harvest rotations, and regenerative agriculture. We suggest adding Item 5 (maybe re-ordering the sequence as appropriate) that states: "Urge the DEQ to incorporate carbon sequestration among the Community Climate Investment funding options."

p 7 / 8 and elsewhere. Climate smart management is mentioned frequently though there is no reference to citations identifying what that means. This is somewhat understandable since the concept does not lend itself to a pithy two-sentence summary. Unfortunately, however, there is a tendency for natural systems managers to claim that climate smart management is what they have been practicing for years / decades. To address this deficiency, I append a three-page summary of climate smart principles, and several recent references to discussions of the principles and their application.

p 10 The encouragement for establishing a comprehensive climate smart agricultural program and the Oregon Agricultural Program are laudable suggestions.

p. 11 Similarly supporting climate smart forest management is laudable, but see caveat above (p. 7/8) The suggestions are laudable that the Legislature should:

Dedicate funding to help empower local communities design and implement urban forestry plans and actions that increase the extent and resilience of urban and community forests.
and

Adopt revisions to the Oregon Forest Practices Act to improve climate mitigation and adaptation outcomes on private lands in Oregon.

It might, however, be valuable to identify specific committees that should be urged to do address this issue.

p. 12

The blue-ribbon panel seems a valuable contribution since funds to incentivize carbon sequestration will be critical and difficult to locate (but see the DEQ discussion below, p.5).

We suggest adding the statement: "Climate smart forestry is here envisioned as defined by Stein et al 2014

Climate-Smart Conservation Putting Adaptation Principles into Practice, i.e., "the intentional and

deliberate

consideration of climate change in natural resource management, realized through adopting forward-looking

goals and explicitly linking strategies to key climate impacts and vulnerabilities.” More recently, this principle has

been discussed in relation to forest management by [Glick et al 2021 Toward a Shared Understanding of Climate](#)

[Smart Restoration on America’s National Forests A Science Review and Synthesis](#). See below for the Addendum: An Introduction to Climate-Smart Natural Resources Conservation

Recommendations to lengthen harvest rotations on state and private forest lands and increase protections for

mature and old growth forests on state and federal lands are commendable and consistent with literature

suggestions regarding how to increase forest carbon sequestration.

p.13

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The recommendation to expand the Oregon Agricultural Heritage Program to include support for forest landowners and to develop a strategic plan for expanding capacity for reforestation in Oregon are equally

commendable.

We are, however, a little concerned that the recommendation to reforest after wildfire might be taken as an

encouragement both to undertake salvage logging and to plant and populate areas with the standard monoculture plantations of (for example) Douglas fir which (a) is already compromised by climate change and

(b) does not generate diverse forests but produces tree farms which are not ecosystems and instantly become

major fire hazards.

p.15

The suggestion to: ‘Expand climate-smart protection, restoration and improved management training and

technical assistance programs’ and to ‘Invest in improvements to Oregon’s natural and working lands inventory

data and research into climate smart management practices’ are also laudable proposals so long as the climate

smart principles are those embodied in Stein et al (2014) and Glick et al (2021) (identified fully above).

p 16

The recommendation that the legislature should ‘fund and create a Natural and Working Lands Council’ offers a

valuable suggestion that would help move the goals of the Executive Order forward and serve the need to

monitor the effectiveness of efforts furthering the goals of this proposal.

p. 17

The concluding comment that: “Natural and working lands can and must be an important part of a comprehensive climate mitigation strategy for Oregon....” is right on target and should stimulate thoughtful

response to the recommendations contained in the proposal.

Throughout the proposal, there was repeated reference to the importance of providing incentives to

promote

carbon sequestration although there were few examples of exactly from where the funding would come

-

outside frequent suggestions that the legislature should provide them or federal funding opportunities should

be monitored. Given the austerity which the state will likely face over the next few budget cycles, it would

probably behoove OGWC to consider, as we suggest below, with caveats, persuading the DEQ to include in the

DEQ Climate Protection Program's Community Climate Investment project options the possibility to invest in

carbon sequestration projects.

Concluding Remarks on the OGWC Proposal:

Overall, this appears as a very positive contribution though, as stated above, we are not clear what 'climate

smart' means as it is used here since no citation was offered though Graves *et al.* was mentioned (see addendum on Climate Smart principles).

We are a little concerned that there are several vague suggestions that someone 'should' do this or that though

often without clear reference to exactly who or what entity should be doing it.

There seems little recognition of the limitation in funds likely to be the reality from the legislature in the forthcoming cycle, and no reference to the potential source of funding from the Community Climate Investment

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fund of the DEQ Climate Protection Program. We suggest that OGWC urge DEQ to include carbon sequestration

in the CCI options (see discussion below).

A major weakness in the state's overall monitoring of our greenhouse gas balance is that emissions from agricultural lands are not fully accounted in the DEQ assessment of emissions while those from forestry are

completely unaccounted. While recognizing the potential political hazard this entails, we suggest that OGWC

should consider recommending a legislative proposal that results in emissions from agriculture and forestry

being fully incorporated into the annual assessment by DEQ of regulated emissions?

The DEQ Climate protection Program as a Means for Providing Incentives for Carbon Sequestration

A key question is: in a lean budget year in the state, how can the carbon sequestration promoted in the proposal

be accomplished?

A vast proportion of Oregon's lands are under human management in the form of businesses that practice

forestry or agriculture, and do so to make a living. Landowners and land managers will need financial incentives

to induce them to adjust their customary practices to focus on carbon sequestration rather than continue to

focus solely on their historic extraction focus.

This brings us to the Department of Environmental Quality and its developing Climate Protection Program. DEQ

is primarily charged with *reducing* emissions via Clean Fuels Standards, Electrification, a Cap and Reduce Program, Regulating Landfill Methane Emissions, and reducing Food Waste. Within the Cap and Reduce Program, as it is being developed, now titled the Climate Protection Program (CPP), DEQ is proposing a Community Climate Investment (CCI) option. This is the feature of the program where polluting entities are able

to achieve compliance for some of their Greenhouse Gas emissions by investing in projects that are effective at

redressing the problem of the rising atmospheric concentration of GHGs. Through this option, it is proposed that

covered polluters having difficulty meeting their emissions reductions requirement may purchase alternative

compliance credits via a third-party non-profit entity that then reviews project proposals. This entity then

grants funds to project managers of approved projects that serve a combination of social justice and atmospheric greenhouse gas reduction goals.

As the Rulemaking Advisory Committee meetings have unfolded, exactly what rules or criteria will govern this

procedure have seemed vague. In particular, the focus has always seemed to be on projects that reduce emissions even though the Governor's Executive Order specifically charges agencies with promoting carbon

sequestration, Section 12:

"...the Oregon Global Warming Commission is directed to take the following actions:

"A. In coordination with ODA ODF, OWEB, the Oregon Global Warming Commission is directed to submit a proposal to the Governor for consideration of adoption of state goals for carbon sequestration and storage..."

As a result of the seeming focus on emissions reductions, public comments to DEQ have repeatedly reminded DEQ of the need to include carbon sequestration among the Community Climate Investment options and DEQ staff have repeatedly responded that carbon sequestration is intended to be included

A review of DEQ presentations to the RAC over the months provide a confusing assortment of views:

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During RAC 3 (Slide 16) we learned that the Community Climate Investment Program would involve third parties which "...invest in projects to reduce or remove greenhouse gas emissions." This implies that, at that time, it was envisaged that sequestration of carbon from the atmosphere would be incorporated as an option.

During RAC 4 (Slide 22) we learned that:

"Community Climate Investments would be the optional alternative compliance option for CPP [Climate Protection Program]

"Intended to:

"- Reduce or sequester emissions

"- Provide a compliance option, in addition to reducing emissions, banking, and trading

"- Promote an equitable energy transition, reduce co-pollutants, and reduce costs for environmental justice and other impacted communities"

Again, the only logical inference to be drawn was that carbon sequestration was still included.

Then, when the rules appeared for RAC 6, we found the options had been revised. We learned that (RAC 6 Slide 22): "CCI Projects: Must reduce greenhouse gas emissions." In response to queries, we were told that the language was not meant to exclude sequestration projects and would be adjusted to correct this apparent restriction.

Subsequently, in conversation with interested RAC members, it was revealed by DEQ staff that, contrary

to the above verbal assurance, the Community Climate Investment option would be limited to projects that reduce emissions. Discussions during RAC 7 and the DEQ presentation to the EQC on July 22nd confirmed this exclusion but no explanation was offered.

This is extremely unfortunate for at least two reasons: (1) The 2018 intergovernmental Panel on Climate Change report specifically indicates that, in addition to reducing emissions, we must remove greenhouse gases already in the atmosphere; (2) at least one agency (ODF) has developed a draft climate change and carbon proposal that seems to assume offsets and indicated it anticipates working with DEQ to develop a program wherein CCI funds can be used to promote carbon sequestration in our forests. In addition, it is anticipated, as the OGWC proposal suggests, that Oregon's agricultural lands could also benefit from the option of allowing polluters to invest in regenerative agriculture projects that trap substantial quantities of carbon from the atmosphere in our soils and, as a bonus, improve the health of our soils.

Meanwhile, in terms of what exactly 1 Community Climate Investment credit buys, we learned: RAC 3 Slide 15 (Community Climate Investments): "1 credit could be used to comply with 1 MT CO₂e of emissions...."

Meanwhile, RAC 6 Slide 16 offered that

"1 CCI credit generally equivalent to 1 compliance instrument"

Thus, throughout this discussion, it has not been clear exactly what one credit is expected to achieve though the EQC presentation acknowledged that there was strong sentiment among RAC and public comments that 1 credit should be 1 ton of CO₂e. During the DEQ presentation to the EQC, the 1:1 equivalence as seemingly included.

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We recommend that OGWC urge DEQ to include carbon sequestration projects among the Community Climate Investment options for funding, and urge that 1 credit (whether via an emissions reduction project or a carbon sequestration project) should achieve (at least on average) 1 ton either of CO₂e emissions reduction or CO₂e sequestration.

A Regulatory Caveat:

An additional and critical concern is that the Community Climate Investment activity as proposed by DEQ is virtually unregulated. Rather, polluting entities seem to be encouraged to apply for credits equivalent to 50% of their annual compliance obligation, and then, although they are only allowed to use these credits to cover a maximum of 20% of their obligation in any one year, they are allowed to bank them in perpetuity. During earlier comments regarding the precursor to the Community Climate Investment protocol, then identified as an Alternative Compliance Option, projects were expected to meet a set of criteria. However, within the CCI as subsequently developed, no such criteria exist. As a result, there are no guarantees that projects receiving these funds exhibit atmospheric greenhouse gas reduction integrity or avoid generating social injustice impacts. For these reasons, we urge OGWC to request that DEQ impose rigorous requirement on this

procedure among which should be the following:

The Polluting entities should not be permitted to apply to the Community Climate Investment fund:

- a. unless they have already installed the best available technology or protocols (BAER) for reducing emissions or have solid plans for undertaking such,
- b. if credits purchased allow them to continue releasing co-pollutants that undermine the air quality and

health of neighboring communities whether or not such emissions compromise the air quality attainment

status of such communities. Interestingly, both HB2020 (2019) and SB1530 (2020) included provisions precluding this, but such restrictions seem to have been lost on DEQ as they developed their current proposed Climate Protection Program. Indeed, DEQ seems actually to encourage this inequity by allowing

covered entities to obtain credits with no prerequisites or rules. The consequence could be a program that

becomes the poster child for offset abuse.

Meanwhile, projects receiving CCI funds must:

a. be third-party certified as achieving carbon sequestration that is real, measurable, additional, longlived, monitored and verifiable. The concept of 'permanent' is difficult in the case of carbon sequestration

on our natural and working lands since the carbon in forests and farms is in constant though slow flux through the system. Rather than demanding that the carbon should be permanently locked, as in a vault, we

should expect that the overall carbon content of a system increases as individual carbon atoms flow through

them much more slowly than previously. Similarly, even emissions reduction projects are not guaranteed to

offer permanent reductions since, for example, even a solar or wind farm will suffer compromised units (individual panels or turbines) that deteriorate with age and require replacement.

b. not allow leakage. This means that projects reducing emissions (e.g., solar farms) cannot be negated by

increased fossil fuel combustion or any process resulting in equivalent emissions elsewhere. Meanwhile, any

carbon sequestered in a project cannot be negated by increased emissions elsewhere (e.g., forest carbon

sequestration projects cannot be compensated by activities elsewhere under the control of the project manager that result in an increase in emissions similar to or greater than the carbon sequestered).

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c. in the case of carbon sequestration or emissions reduction projects, the plan should incorporate a buffer

pool (e.g., <https://ww2.arb.ca.gov/sites/default/files/classic/cc/capandtrade/offsets/overview.pdf> and <https://climatetrust.org/forest-carbon-is-backed-by-good-science-scorcher/>) that can compensate for unintentional carbon losses (from wildfire, earthquake, or terrorist act, for example).

d. not generate conditions that compromise equity and social justice.

While the CCI protocol could serve to support social justice ends, and provide funds to incentivize carbon

sequestration, this protocol must incorporate rules that guarantee the integrity of projects and preclude social

injustice. *We suggest that OGWC encourage DEQ to develop rigorous rules to govern the CCI fund collection and distribution.*

While, overall, we find the Natural and Working Lands proposal positive, we urge consideration of these few concerns.

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Addendum: An Introduction to Climate-Smart Natural Resources Conservation

(by Charisse Sydoriak)

- Ecosystems can no longer be preserved or restored to some sort of historic or “pristine condition” due to the rapidity of climate change and the far reach of human influence. Addressing the growing threats brought about or accentuated by climate change requires a fundamental shift in the practice of natural resource management (Glick et al. 2021, Schuurman et al. 2020, Stein et al. 2014).
- The future climate will be the primary factor determining vegetation conditions and species viabilities in this century. In the face of rapid climatic changes, species will be faced with one of three potential responses: adapt in place; shift in distribution to track with evolving suitable conditions; or go extinct.
- For valued species and ecosystem services to persist, diverse natural resources management activities must be considered over extended timescales and geographic scope. Management activities need to be evaluated continuously to determine whether goals, objectives, and assumptions remain viable.
- Being “climate-smart” is “the intentional and deliberate consideration of climate change in natural resource management, realized through adopting forward-looking goals and explicitly linking strategies to key climate impacts and vulnerabilities” (Stein et al 2014). It entails INTENTIONALLY making a transition from a paradigm of protection and restoration (resisting change), to one that anticipates and actively manages for uncertain yet plausible future conditions. The challenge is to manage for acceptable outcomes, with uncertainty clearly in mind.
- Climate-Smart Conservation: Putting Adaptation Principles into Practice (Stein et al 2014) offers guidance for designing and carrying out natural resources management activities in the face of a rapidly changing climate.
- Key characteristics of the “Climate Smart” approach are:

Linking actions to climate impacts. Natural resources management strategies and actions are designed specifically to address the impact of climate change in concert with existing threats. Actions are supported by an explicit scientific rationale and understanding of potential climate vulnerabilities.

Embrace forward-looking goals. Management goals focus on future, rather than past conditions. Strategies take a long view (decades to centuries) but account for near-term challenges and needed transition strategies.

Consider broader landscape context. On-the-ground actions are designed in the context of broader geographic scales to account for likely shifts in species distributions, to sustain ecological processes, and to promote collaboration across land management boundaries.

Adopt strategies robust to uncertainty. Strategies and actions ideally provide benefit across a range of possible future conditions to account for uncertainties in future climatic conditions, and in ecological and human responses to climate shifts.

Employ agile and informed management. Natural resources managers and the public embrace experimentation, continuous learning and dynamic adjustment to accommodate uncertainty--regularly taking advantage of new knowledge to cope with rapid shifts in climatic, ecological, and socioeconomic conditions.

Minimize carbon footprint. Adopt strategies that minimize energy use & greenhouse gas emissions and employ tactics that enable systems to naturally cycle and store carbon.
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Account for climate influence on project success. Monitor the results of actions taken. Avoid investing effort likely to be undermined by climate-related changes unless part of an intentional strategy.

Safeguard people and nature. Adopt strategies and tactics that enhance ecosystems’ capacity to protect human communities and co-beneficial biota from climate change impacts.

Avoid maladaptation. Take care not to exacerbate human/climate-related vulnerabilities or undermine conservation goals and broader ecosystem sustainability.

Climate-Smart Adaptation Process Cycle

There are several change adaptation planning frameworks to choose from. The process cycle

shown in Figure 1 demonstrates the iterative nature of the National Wildlife Federation climate-smart approach. Note that there are opportunities throughout the process to interact with stakeholders. Stakeholder engagement is essential in steps 1, 3, and 4.

Step 1: The first step is to clearly articulate values of concern in a collaborative manner and describe why they are important ecologically and socioeconomically. The purpose of the organization’s goals for a resource is often defined in law or policy, but sociopolitical concerns (e.g., equity) should be integrated in the process.

Step 2: The next step is what makes the climate-smart process unique. The values identified in step 1 are evaluated for their vulnerability based on the best available science and global climate change modeling to determine if those values are likely to be affected positively or negatively by climate change. All living things exist within a range of conditions that may not be available in the future climate. Vulnerability is assessed by looking at exposure potential over time, inherent sensitivity, and adaptive capacity. At a minimum, the value-of-interest is examined relative to existing stressors such as pollution, habitat loss, or invasives and its physiological vulnerability to increasing temperatures and changes in precipitation in the next decade, mid-century, or longer. This step requires expert knowledge, geospatial tools, and review of the scientific literature.

Step 3 requires critical reflection on the vulnerabilities developed in step 2 for a reality check. If the value is at high risk in the face of climate change, the original goals and objectives may be unrealistic unless the value can survive somewhere else. When this occurs, the goals and objectives should be intentionally revised.

Step 4: In step 4, a suite of adaptation options or “strategies” are identified based on the vulnerability assessments (step 2), and on management feasibility and cost (step 3). Step 4 entails looking at plausible future conditions (e.g. scenario planning) to find places where valued resources could persist with or without management intervention; and intentionally deciding where, why, and how to take action to protect values-at-risk. A simple tool called the Resist-Accept-Direct (RAD) decision framework which “captures the entire decision space for responding to ecosystems facing the potential for rapid, irreversible ecological change” is introduced below to facilitate development of realistic management strategies across space and time.

Figure 1. Climate-Smart Adaptation Process Cycle

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Climate-Smart Approaches/Strategies: Making climate-smart decisions in the face of uncertain future conditions can be overwhelming. Fortunately, the Resist-Accept-Direct (RAD) Framework (Glick et al. 2021) narrows the decision space to only three strategies (Table 1). Common to all is a commit to “intentionally intervene to shape the trajectory of ecosystem change” based on “underlying goals and values, and motivations for taking each approach.” All three strategies are warranted simultaneously depending on acceptable outcomes and where, when, and why management action is being considered.

Table 1. Resist-Accept-Direct (RAD) approaches (modified from Schuurman et al. 2020)

Category	RESIST Change	ACCEPT Change	DIRECT Change
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<p>How is the approach defined?</p>	<p><i>Work to maintain or restore ecosystem processes, function, structure, or composition based upon historical or acceptable current conditions</i></p>	<p><i>Allow ecosystem processes, function, structure, or composition to drift autonomously (away from historical conditions), without intervening to alter the trajectory of change</i></p>	<p><i>Actively shape ecosystem processes, function, structure, or composition, resulting in a new ecosystem configuration based upon desired conditions and ecosystem services</i></p>
<p>What each approach may entail</p>	<ul style="list-style-type: none"> • Reduce the magnitude of directional transformative forces • Reduce the ecosystem effects of forces • Restore changing ecosystems to a more historical condition • Monitor to look for unforeseen consequences and evaluate success and feasibility of resisting 	<ul style="list-style-type: none"> • Avoid acting to alter the magnitude, trajectory, or ecological outcome of directional transformative forces • Monitor to see what happens, look for unforeseen consequences, and consider the need for active intervention • Possibly take management actions other than active intervention such as educating stakeholders 	<ul style="list-style-type: none"> • Act to direct the magnitude and effects of directional transformative forces • Direct ecosystems toward a specific condition that differs from the past but is more resilient to future climatic conditions • Monitor to look for unforeseen consequences and assess if trajectory of change aligns with expectations
<p>Desired Outcome/ Goals</p>	<p>Persistence or restoration of historical conditions and services, using a retrospective benchmark</p>	<p>New conditions and services resulting from intentionally not guiding change. No specific benchmark needed</p>	<p>New conditions, clearly defined, intentionally sought and ideally part of a self-sustaining system</p>
<p>Motivations for each approach</p>	<ul style="list-style-type: none"> • Conserve historical or current conditions • Retain existing or re-create former ecosystem services • Buy time for autonomous species response or further management actions 	<ul style="list-style-type: none"> • Conserve some ecosystems in an unmanipulated condition • Insufficient resources (e.g., funds or knowledge) or inability to shape the trajectory of change • Desirable ecosystem services are not threatened 	<ul style="list-style-type: none"> • Provide a new set of conditions and ecosystem services preferable to those that would result from accepting change, or where resisting change is considered futile • New conditions can be envisioned from geographic analogs or as novel systems

Step 5: An action plan is produced in step 5. To support the plan, stakeholders need to be educated starting with the original goals and objectives (step 1) and walked through the findings in steps 2-4 to show why, where, when, and how goals and objectives can or cannot be attained based on the best available science, plausible future condition forecasts, time constraints, and available resources (costs). The plan should identify assumptions made and provide the means for evaluating success based on climate sensitive metrics. In addition to articulating the strategic framework (step 5), the action plan should prescribe implementation tactics and projects. The “Adaptation Workbook” (Swanston et al. 2016) provides a “menu of adaptation strategies and approaches” to facilitate project level action planning and implementation in forest ecosystems.

Steps 6 & 7: During implementation (steps 6 & 7) it is likely that adjustments will be needed. This means

that metrics need to be regularly monitored and an administrative structure set up to be responsive to unforeseen situations. The plan implementors should take the long view and be humble, nimble, and responsive when things don't go as planned. When conditions warrant, the planning process should be reinitiated to validate and correct original assumptions and planned actions.

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Dear Chair Macdonald and members of the OGWC,

On behalf of the Forest Policy Sub-table of the Oregon Climate Action Plan (OCAP) Coalition, we are providing comments (attached) on your Draft Natural and Working Lands Proposal, related to forests specifically. Thank you for your consideration of these comments and for the many opportunities to provide input during this process.

Sincerely,

Lauren Anderson and Grace Brahler,

Co-Leads of Forest Sub-table of Oregon Climate Action Plan (OCAP) Coalition



OCAP Letter_ NWL
Proposal 7.23.21.pdf

TO:	Chair Macdonald and Members of the Oregon
CC:	Global Warming Commission Oregon Board of Forestry
DATE: 8/2/2021	

RE:	Written Testimony, OCAP Forest Policy Sub-Table Draft Natural and Working Lands Proposal
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Dear Chair Macdonald and Members of the Oregon Global Warming Commission,
Thank you for drafting such a strong Natural and Working Lands (NWL) Proposal, and especially for centering the report around climate-impacted communities, environmental justice, and tribal priorities. Protecting and improving the management of Oregon forests must be a central component of the state's strategy to address the joint climate and extinction crises we face today. Oregon's state land management agencies must expand their missions and goals to incorporate carbon storage and sequestration as soon as possible. Natural climate solutions, like forest protections, are some of our best near-term options for mitigating and adapting to the impacts of climate change. State agencies urgently need to lead Oregon in a direction that takes climate science seriously, and immediately begin work on policies that increase natural carbon sequestration and reduce emissions from logging. This proposal represents the first significant step towards recognizing this need in Oregon. The OCAP Forest Policy Table strongly supports the Proposal's recommendations to:

- Set ambitious sequestration targets to sequester an additional 4 to 7 million metric tons of carbon dioxide equivalent per year in Oregon's natural and working lands and waters by 2030 (that are additional to emissions reductions goals);
- Promote longer logging rotations on state and private forest lands;
- Promote additional protections for mature and old growth forests on state and federal lands as well as areas with high carbon storage potential and co-benefits for threatened and endangered species and improved water quality;
- Recognize the need for new funding and new capacity within Oregon's state agencies;
- Establish a blue-ribbon panel to develop a strategic plan for how to adopt climate-smart forest management strategies in Oregon;
- Establish a Natural and Working Lands Council to create a baseline for GHG emissions reductions and carbon sequestration;
- Strengthen the Forest Practices Act to continue to improve climate and carbon sequestration outcomes in Oregon's forests;
- Work with federal land management agencies to ensure federal lands are part of Oregon's NWL goal;
- Call for improvements to Oregon's natural and working lands inventory data;
- Call for support for ODF's Urban and Community Forestry program to increase urban tree cover and improve living conditions in low-income neighborhoods; and
- Stress the importance of providing climate-smart NWL management education and training to support an equitable and just transition.

Adopting these recommendations would represent a significant step towards positioning Oregon as a national leader in climate-smart forestry, and we are very grateful for the Commission's leadership in developing the proposal. In addition to the excellent objectives already outlined in this document, we would also recommend that the proposal:

- Recommend that ODF (and related state agencies) provide a plan and schedule for new rules, budget requests, and legislative concepts to implement each of the OGWCs recommendations by November 2021 (for consideration in the next legislative session).
- Recommend that the state legislature fund new climate change policy positions within the Oregon Department of Forestry to meet growing capacity needs.
- Recommend continued opportunities for stakeholder engagement as the NWL Council develops metrics, state agencies begin to implement programs needed to meet the new carbon sequestration goal, and OGWC tracks progress toward meeting the goal.
- Promote increased tree biodiversity, which increases carbon sequestration and resilience to

pests and pathogens.

- Recognize the need to avoid post-fire logging as it can be ecologically harmful and can result in significant carbon emissions that would have otherwise remained on the landscape for decades. The proposal calls for implementing forest resilience treatments in fire-prone forests as a necessary practice, but you should also note that post-fire logging is often not necessary, and can be harmful.

- Recommend that the forestry sector emissions be included in Oregon Greenhouse Gas SectorBased Inventory Data. Partnering with the Forest Inventory and Analysis (FIA) Program to collect better data is a good start, but that data needs to be housed in the same place as all of Oregon's other GHG emissions for the purposes of making this data set comprehensive and readily available to the public. Further, ODF could utilize existing LiDAR data from NASA's Global Ecosystem Dynamics Investigation (GEDI) initiative to estimate the current level of carbon stored on the landscape, and track carbon lost from logging. The state legislature could fund this effort, with the end product being comprehensive and detailed maps of remaining intact forests on public lands that identify forests with high carbon storage potential and biodiversity value.

- Recognize that better protections for mature and old growth forests on public lands, and better forestry practices on private lands also contribute to the Biden Administration's goal to protect 30 percent of lands and waters by 2030, and help counter the biodiversity crisis.

- Focus reforestation on ecosystems that are not able to recover naturally and avoid habitat conversion as a result of afforestation, especially in regards to "reforesting riparian floodplain habitats" as you call for in the report. Reforestation and afforestation can be useful climatesmart practices, but there must be safeguards in place to ensure that habitat (such as grasslands or wetlands) is not lost as a result of that effort. There are many landscapes in Oregon where forests are not ecologically suitable nor viable.

- Recognize the need to avoid incentives for woody biomass production. Biomass is a significant source of carbon emissions, and can lead to local air pollution impacts in communities already struggling from the impacts of climate change. This form of energy generation should not be incentivized or scaled up in Oregon.

- Recommend that LCDC consider adopting a new land use planning goal related specifically to climate to ensure local entities have the tools they need to prepare for and adapt to a changing climate (per recommendation 3A, top of page 10).

Thank you for your leadership in developing this Proposal, we strongly support the principle that natural climate solutions should be central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,

Lauren Anderson

Forest and Climate Policy Coordinator

Oregon Wild

Joseph Vaile

Climate Director

KS Wild

Julia DeGraw

Coalition Director

Oregon League of Conservation Voters

Rand Schenck

Forestry Lead

Metro Climate Action Team

Grace Brahler

Oregon Climate Action Plan & Policy Manager
Beyond Toxics

Dear Chair Macdonald and members of the Oregon Global Warming Commission,

On behalf of the American Farmland Trust, I am submitting the attached comments for the draft Natural Working Lands Proposal. We are appreciative of your critical work to move this forward, and your responsiveness to the feedback of the Oregon Climate Action Plan's Natural and Working Lands Tables, of which we are engaged and supportive.

Please don't hesitate to reach out if you have any questions.

Best,
Dani Madrone

Dani Madrone



Pacific Northwest Policy Manager

her/she/hers



AFT

Comments_OCAP NW

August 2, 2021

Dear Chair Macdonald and members of the Oregon Global Warming Commission:

Thank you for undertaking the work to develop the Natural Working Lands proposal to address carbon sequestration as part of Oregon's response to climate change. We appreciate your responsiveness to the feedback of the Oregon Climate Action Plan's Natural and Working Lands Tables, of which we are engaged and supportive. Below we offer our comments specific to the recommendations related to agriculture.

Farms in Oregon are under threat. Population growth, extreme weather, and competition for land shape an uncertain future for our food system. Our diminished capacity for food production threatens our ability to feed our communities, preserve carbon sequestering soils, and create opportunities for those who have been denied access to the agricultural economy.

The American Farmland Trust (AFT) is a national organization dedicated to saving the land that sustains us by protecting farmland, promoting sound farming practices, and keeping farmers on the land. For 20 years, our Pacific Northwest program has monitored the landscape of agriculture in Oregon. In our

Farms Under Threat research, we have found that nearly 69,000 acres of farmland were lost between 2001 and 2016.¹

We support the goal of no-net loss of resource lands and water. This is critical to achieving the climate goals of Oregon. Because farmland is steadily being converted to non-agricultural uses, current agricultural protections are not enough to prevent the loss of farmland. An analysis of Oregon's Statewide Planning Goals will shed some light on the deficiencies and offer a course correction. We appreciate the inclusion of landscape and community level planning that evaluates the carbon sequestration benefits of various land-use scenarios. Our *Greener Fields* research in California and New York has shown that protecting farmland from conversion to low-density residential development should be a part of statewide climate goals.^{2,3}

¹ AFT's Farms Under Threat spatial mapping for Oregon can be found here:

https://storage.googleapis.com/cspfut.appspot.com/reports/spatial/Oregon_spatial.pdf

² Information on *Greener Fields: California Communities Combating Climate Change* is available through AFT's Farmland Information Center: <https://farmlandinfo.org/publications/greener-fields-california-communitiescombating-climate-change/>

³ Information on *Greener Fields: Combating Climate Change by Keeping Land in Farming in New York*: <https://farmlandinfo.org/publications/greener-fields-combating-climate-change-by-keeping-land-in-farming-innew-york/>

In support of no-net loss of agricultural lands, we want to ensure that initial funding for the Oregon Agricultural Heritage Program remains committed to its original purpose: to preserve farmland. We support the inclusion of climate smart agriculture and support for forest landowners under the umbrella of the Oregon Agricultural Heritage Program, but it is imperative that Oregon first honor the intent that established the program. Without preserving agricultural land, there will not be enough acreage to implement farming practices that sequester carbon.

Thank you for considering our comments. We appreciate being involved in the process to shape the future of agriculture in Oregon. Please don't hesitate to reach out if you have any questions or would like to discuss our comments. I can be reached at the contact information below.

Sincerely,

Dani Madrone

Pacific Northwest Policy Manager

American Farmland Trust

dmadrone@farmland.org

360-939-1668

Hello,

Please see the attached file for Pacific Forest Trust's comments on the Commission's Natural and Working Lands proposal.

Thank you,
Angus McLean

-- --

Angus McLean
Policy Associate

The Pacific Forest Trust
Working Forests Work Wonders for Us All
1001-A O'Reilly Avenue / San Francisco, CA 94129
Cell: 914.374.9237
Office: 415.561.0700 x13



OGWC NWL
Proposal Comments F

Pacific Forest Trust
830 NE Holladay St
Portland, OR 97232
July 28, 2021
Oregon Global Warming Commission
550 Capitol St. NE
Salem, OR 97301

Re: Comment on Final Draft of Natural and Working Lands Proposal

Dear Chair Macdonald and Members of the Oregon Global Warming Commission,
We appreciate that the Commission recognizes the central role natural and working lands must play in order for our state to mount an ambitious response to the climate and biodiversity crises. In order to seriously address the threats posed by climate change, state land management agencies must step up and play a more active role in mitigation and adaptation. For our forests, this means reducing emissions from logging, increasing sequestration, and managing for more resilient landscapes and maximization of co-benefits. This proposal represents an important step in that direction.

In particular, we would like to express our support for the following recommendations:

1. Setting a sequestration target that is additional to Oregon's emissions reduction goals.

The IPCC has made it clear that in order to avert the worst effects of climate change and achieve net-zero by 2050, we must not only reduce emissions, but also remove large amounts of greenhouse gases from the atmosphere. OGWC's moderate-to-ambitious goal of sequestering an additional 4-7 MMT CO₂-e annually by 2030 will help move Oregon significantly closer to net-zero.

2. Fully funding the Oregon Agricultural Heritage Program (OAHP) and broadening its scope to support private forest landowners. With adequate funding, OAHP will be a vital tool for protecting working lands and the fish and wildlife they support. Opening up the program to forest landowners will enhance watershed management, long-term carbon storage, and biodiversity outcomes.

3. Investing in improvements to Oregon's natural and working lands inventory data.

More and better data is needed to set accurate emissions and sequestration baselines and measure progress as the natural and working lands strategy is carried out.

Increasing the density of FIA plots across all ownerships and the frequency of remeasurement is key to gauging carbon flux on forest lands.

4. Forming both a **Natural and Working Lands Council** to establish a baseline for carbon sequestration and a **blue-ribbon panel** to develop a strategic plan for how to adopt climate-smart forest management strategies in Oregon.

In addition, we feel the proposal would be strengthened by incorporating the following recommendations:

1. **Use of easements and fee land acquisitions to protect mature and intact forests on private lands.** The previous draft of the proposal included this recommendation, and the Commission has acknowledged extensive feedback from stakeholders and the public supporting it. We are concerned that it has been removed from the current draft. Easements are a critical tool in any climate-smart natural and working lands strategy because they ensure that carbon is stored for the long term. Our organization has demonstrated how the use of working forest conservation easements in Oregon can keep lands in production while managing for public benefits such as enhanced resilient sequestration, clean drinking water, and habitat. The blue-ribbon panel should include the use of easements in its evaluation of an optimal climate-smart forest management strategy.

2. **Explicit promotion of longer rotations on state and private forest lands.** During the June 4 OGWC meeting, deferred timber harvest was acknowledged as having by far the greatest sequestration potential of all evaluated strategies. We are pleased that the Commission has recommended that the blue-ribbon panel evaluate a bold set of scenarios, but the final draft of the proposal should directly endorse the implementation of extended harvest cycles, rather than just further study.

3. **Inclusion of emissions from timber harvest in the state GHG sector-based inventory data.** Timber harvest is the largest emissions source in the state, and yet it is absent from the state's official GHG accounting. Whether emissions are the result of fossil fuel combustion or timber harvest, there is no difference to the atmosphere. While sequestration goals should be separate from and additional to the state's sector-based emissions targets, emissions from forests should be measured and reduced like any other sector.

4. **Establish a carbon reserve on state and federal lands.** The State Legislature should fund efforts to produce maps of remaining intact forests on public lands that identify forests with high carbon storage potential and biodiversity value. Mature and old growth forests as well as areas with high carbon storage potential should be prioritized for protection.

5. **Provide the Department of Forestry with funding for new full-time positions focused on climate policy.** ODF's Climate Change and Carbon Plan lays out a pathway to climate-informed forest management, including through the implementation of carbon offsets. However, without adequate funding, ODF will continue to lack sufficient staffing and capacity to carry out new climate programs. As laid out in Governor Brown's Executive Order, ODF must play a central role in Oregon's natural and working lands climate strategy.

Dear Chair Macdonald and Members of the Oregon Global Warming Commission

You are to be commended for an excellent proposal that sets impressive standards and policies for sequestering carbon in Oregon's natural and working lands, a vital component in meeting Oregon's GHG reduction goals.

My wife Julie and I are small woodland owners, who have recently enrolled our forested land in a carbon sequestration program under agreement with the California Air Resources Board to participate in their carbon credit exchange program.

Among the recommendations in your proposal that I most appreciate and support are that the Oregon Department of Forestry lengthen harvest rotations on state and private forest lands. Equally important are your recommended protections for mature and old growth forests on state and federal lands as well as areas with high carbon storage potential and co-benefits for threatened and endangered species and improved water quality.

I also commend you for recommending revisions to the Oregon Forest Practices Act to enhance climate smart forestry, for example increasing riparian buffers.

I strongly endorse your call for a blue-ribbon panel to develop a strategic plan for how to best facilitate adoption of the climate-smart forest management **strategies that show the most climate mitigation and adaptation promise across all lands in Oregon.**

In summary, I think this is a very fine proposal that should be adopted as a guiding document for climate smart management of Oregon's natural and working lands.

Sincerely,

John F Christensen, PhD
39825 Gordon Creek Rd.
Corbett, OR 97019
(971) 645-3882
nagarkot247@gmail.com

Subject: DEQ Rule making

I have been involved in the rule making process for Kate Browns Cap and Reduce policies at Oregon DEQ. I have been trying to advocate for use of the some of the proceeds from the program to be used for working lands, community forest either state or county owned . The Executive order says :

WHEREAS, all agencies with jurisdiction over natural and working landscapes in Oregon will need to prepare and plan for the impacts of climate change and take actions to encourage carbon sequestration and storage; and

DEQ has taken the stance they don't want to include sequestration as a solution to climate change .I need help to reverse this decision. Could we talk some time about this issue.

John Hillock
Wallowa County Commissioner
5413980141

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Date: July 30, 2021

To:	Chair Cathy Macdonald
Oregon Global Warming Commission	

From: Amanda Astor
Forest Policy Manager
Associated Oregon Loggers

Response: Draft Natural and Working Lands Proposal

Introduction

Thank you for the opportunity to discuss the need to ensure a robust and vibrant contracting community is maintained if not enhanced while increasing the ability of the state to mitigate climate change through natural solutions.

Associated Oregon Loggers (AOL) is the statewide trade association who has been the voice of small family forest businesses for over 50 years. AOL's members work daily to steward Oregon's forests. These honorable small businesses led by forestry professionals employ more than 22,000 Oregonians who provide sustainable forest management services for Oregon's public and private forestlands, while producing economic stability for their communities and living wage jobs for their employees and families.

Forest contractors are being tapped by the complete and coordinated system to help stop the blazes across the state. State Departments like Oregon Department of Forestry (ODF) and Oregon State Fire Marshall as well as their federal partners, rely heavily on AOL's members during fire season, but the only way for these fire assets to remain available during fire season is to ensure they can work all year long. There is nothing more disheartening than being called a hero during fire season and then slandered in the media or overregulated outside of fire emergencies.

The partnerships and complex supply chains that allow wildlife habitat to be created and protected, recreational experiences to be maintained and carbon storing wood products to continually be supplied to the market does not happen by chance and AOL's members are proud to be a part of the team. Please ensure these hardworking Oregonians can continue to do this hard work by recognizing their contributions in these recommendations to the Governor.

What We Know

According to the Oregon Forest Resources Institute's [Oregon Forest Facts 2021-22 Edition](#), "the amount of wood harvested each year is about 77 percent of the annual timber growth" and "11 percent of that growth is offset by trees that die from causes such as fire, insects and disease." They also state, "the total carbon sequestered in Oregon by the state's forests and wood products made here is estimated to be 49.5 million metric tons of carbon dioxide equivalent each year, according to the Oregon Forest Resources Institute report [Carbon in Oregon's Managed Forests](#). Oregon's forests also annually sequester about 30.9 million metric tons of carbon dioxide equivalent. This forest carbon sequestration rate is the highest of the western states, and one of the highest in the country."

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But, to add to our current knowledge of forest carbon in Oregon, the Oregon Department of Forestry has commissioned multiple carbon studies. They started with an overview of Forest Ecosystem Carbon and PNW Forest Carbon Initiative by developing the [Oregon Forest Ecosystem Carbon Inventory: 2001-2016](#). Then they worked on a Harvested Wood Product and Sawmill Energy Report which recently was published: [Oregon Harvested Wood Products Carbon Inventory 1906 – 2018](#).

Timeline and Knowledge Gaps

ODF is now in the review and final development stage of their [Climate Change and Carbon Plan](#). The Draft Natural and Working Lands Proposal recognizes the development of this plan and that fact that ODF is undergoing two additional "studies to evaluate the net carbon sequestration consequences of different management scenarios, in terms of the amount of carbon that can be stored and potentially lost. One is being led by American Forests in partnership with the US Forest Service, the Canadian Forest Service, Northern Institute of Applied Climate Science, and Michigan State University. The other is being led by USFS Pacific Northwest Research Station."

Both the Draft Natural and Working Lands Proposal and the ODF Climate Change and Carbon Plan

discuss “climate-informed” or “climate smart” forestry implying that current silvicultural practices are not either of those two things. However, these terms are not defined nor are there any academic resources identified to verify the claim that current management practices are not climate smart forestry or that lengthening harvest rotations on state and private forest lands would result in optimized carbon benefits.

On the contrary, research from the Consortium for Research on Renewable Industrial Materials suggests [sustainably managing and harvesting forests substantially improves carbon mitigation outcomes](#). The best uses of wood provide a “carbon negative technology” with the ability to displace fossil emissions. In short, simply planting more trees or increasing rotation ages, then walking away is not enough. We must also harvest and use the wood to optimize the climate change benefits.

As demand for global structural wood products increases, policy makers should empower Oregon’s forest sector in its critical roll to help reduce carbon from our atmosphere by promoting storage in the harvested wood products pool and basing suggestions on National Standards, the large body of research which points to active forest management on all lands as a means to increase carbon sequestration and forest health and waiting to make firm decisions until the two additional ODF studies are completed. The OGWC should also be promoting tools such as the Northern Institute of Applied Climate Science’s (NIACS) [Forest Carbon Menu of Adaptation and Mitigation Strategies & Approaches](#).

Suggested Criteria

Rather than overregulating the very industry that has the ability to enhance natural solutions to climate change, the state should be a collaborating partner. Any money put up by the state to complete carbon sequestration work on natural and working lands should be met with at least a handful of specific criteria.

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1. Projects should be required to result in a break even or net profit to the state in order to do additional restoration activity such that the state is acting with fiduciary responsibility and maximizing net positive outcomes to the public.
2. A certain proportion of the funding should be carved out to fund Good Neighbor Authority where forest restoration can result in a meaningful impact due to federal ownership making up over half of all the natural and working lands in Oregon.
3. The recommendations of the OGWC must not act against the work outlined by the [Governor’s Council on Wildfire Response](#), the [Oregon Memorandum of Understanding on Shared Stewardship](#) nor [Senate Bill 762](#).

Learning From California

As noted on page 2 of the Draft Natural and Working Lands Proposal, California created a plan for reducing land sector emissions in 2019. But in 2015, California actually created [three grant programs](#) managed by the California Department of Forestry and Fire Protection (CAL Fire) to spend money received from its cap-and-trade program. The cap-and-trade program brings in about \$500 million to the state of which \$200 million is turned around and spent on these three grant programs. They increase proactive forest management; help create co-benefits through urban forestry and fund fire adaptation work around communities to reduce carbon emitting wildfire risks. All of these programs increase timber harvests, rural jobs and robust marketplaces.

4. California Climate Investments Forest Health Grant Program
5. California Climate Investments Urban & Community Forestry Grant Program
6. California Climate Investments Fire Prevention Grant Program

Counties and other forest managing partner organizations compete for these funds annually. Each applicant must apply to a specific grant program which each have their own specific selection criteria. Because the grants are funded by the cap-and-trade program Cal Fire's selection criteria includes carbon sequestration/greenhouse gas reduction language.

In addition to these proactive approaches, Governor Newsom also proposed \$1 billion in surplus state funds to help increase these efforts with nearly \$50 million being directed to increased GNA staffing and capacity in the state through CAL Fire. This comes after the state signed its own [Memorandum of Understanding](#) (MOU) with the US Forest Service related to Shared Stewardship on August 12, 2020. The MOU outlines a commitment for 1 million acres to be treated through active forest management each year. This acreage is to be split with 500,000 acres on private lands and 500,000 acres on federal lands each year resulting in the ability for the state to manage all productive timberlands in California on a 15–20 year cycle.

Regrettably, the Department of Environmental Quality chose not to work collaboratively with the Oregon Watershed Enhancement Board, OGWC, ODF nor the Board of Forestry and thus have chosen against including biogenic carbon sequestration projects as an alternative compliance mechanism for the Oregon Climate Protection Program. They have also chosen against including forest sequestration projects within the Community Climate Investment alternative compliance mechanism. This could have created a steady funding source in Oregon similar to California, but now Oregon will have to find a new way to fund these projects. In the end, it will likely be the whole of Oregon paying the price. It will be

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critical to find equitable solutions to fund this work that do not hurt underserved communities such as rural Oregonians, BIPOC communities, the unhoused and transient population, families near or under the poverty line, etc.

Oregon should however, be making proactive steps forward to achieve the scale of restoration needed across the landscape to reduce wildfire emissions, increase forest health, enhance the sequestration potential on natural and working lands and to increase the storage of carbon in our harvested wood products pool.

Permanence Issues

Now, fire is threatening the permanence of this carbon offset market. The Bootleg Fire is inching closer to Northern California's CAFR5233 forest which has accrued 954,179 offset credits to date since 2015. As AOL has said before, increasing rotation ages in our forests is NOT climate smart forestry. This simply locks up more carbon in the forested environment where it is at a higher risk of emission through natural disasters like wildfire, drought and insect mortality.

A study published in Science titled "Climate-driven risks to the climate mitigation potential of forests" says climate change threatens the permanence of storing carbon in our forested ecosystems. As the atmosphere continues to collect carbon, fertilizing plants and inducing growth, dry and extreme weather patterns, forest pests and pathogens also run rampant. This blend of conditions creates the perfect opportunity for catastrophic fires and severe mortality events in our forests. The scientists note that, "Crucially, many of these permanence risks are projected to increase in the 21st century because of climate change, and thus estimates based on historical data will underestimate the true risks that forests face. Forest climate policy needs to fully account for the permanence risks because they could fundamentally undermine the effectiveness of forest-based climate solutions."

We can enhance the stability of our carbon stores by continually adding carbon to the harvested wood products pool and creating legislation that mandates the use of more wood construction, mass timber

buildings and carbon dense cities.

Engineered wood has been around for half of a century but has been gaining a lot of attention lately. Products such as cross laminated timber (CLT), I-joists, and glulam beams help reduce the need for carbon

intensive non-renewable building materials like steel and concrete. New research from Yale published in *Natural Sustainability* titled “Buildings as a global carbon sink”, shows when these wood innovations are used through construction in cities, our urban environments can act as carbon sinks that are long-lived, less risky and farm more permanent than the forested environment.

Milwaukee, WI has acknowledged this opportunity and is preparing to construct a 25-story mass timber building for residential apartments sometime in the summer of 2022. Oregon is a leader in this technology

as well, especially because Oregon is—and will continue to lead the nation in structural wood growth, production and technology innovation. We have the most engineered wood plants in all of the United States. We grow, mill and engineer the most structural wood in Oregon—doing this better than all other states. We should also be maximizing its use and forest production here in Oregon for its dual advantages

of carbon capture AND structural storage.

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Soil Organic Carbon Pool

New research which is in the review process lead by Luke Nave, a Research Scientist with NIACS and the Coordinator of the International Soil Carbon Network, also notes that losses in carbon from the soil organic carbon (SOC) pool are driven by wildfire not harvesting. In an interview he said, “Our work for the PNW (including OR, WA, and portions of adjacent states) shows quite clearly that there are major SOC losses with fires (most of all wildfires) but rarely or not at all with harvesting. Our analysis is based upon real experimental and observational data, and follows a set of approaches we've used successfully in other ecoregions over the last few years.”

By only focusing on forests to store carbon and completely ignoring leakage, substitution factors, wildfire emissions and storage potential in the harvested wood products pool, the OGWC is missing a great opportunity to innovate and lead the way in meaningful climate smart forestry and collaboration with other state efforts.

Blue-Ribbon Panel and Natural and Working Lands Council

The OGWC suggests in its Draft Natural and Working Lands Proposal that a blue-ribbon panel be created to develop methods to incentivize “climate smart forestry” and a Natural and Working Lands Council to establish a baseline for the outcome-based goals and strategies to advance natural and working lands sequestration potential. AOL believes this work can be completed by the new ODF Forest Restoration and Resiliency Projects Committee or future committee created by the department as a part of the 20 Year Strategic Plan Development. Perhaps these efforts can all be combined into one partnership/collaborative group.

Graciously,

Amanda Astor (she/her/hers)

aastor@oregonloggers.org

Forest Policy Manager

Associated Oregon Loggers

Katie,

I reviewed the document and accompanying reports and thought the group did a thorough job of explaining the issue and suggesting ways to improve sequestration of Carbon and reduction of GHGs from croplands and grazing lands. Basically, I would call it a plan to plan that identifies the need for additional research, assessment, monitoring, and funding.

There are numerous opportunities for OSU particularly as it relates to evaluating various practices across many different crops, soil types, grazing, and moisture regimes as well as conducting similar research on tidal estuaries and forests. I found the report particularly lacking in providing an argument for economic analyses of these same questions as well as providing decision tools for producers based on the economic analysis. Although cap and trade and carbon pricing are obviously areas of disagreement for some and likely omitted from this report, most would agree that incentivizing smart agricultural, regenerative agriculture or similar buzzwords involves cash incentives either from improved production, price incentives, or paying for the carbon sequestered and/receiving credits that can be traded or sold for cash. Economists are really good at generating supply curves that can predict adoption of recommended practices based on the return those practices produce in the form of cash, tax credits, regulatory relief, etc.

Finally, I would encourage the group to delve into the issue of verification. The county level study provided by Moore, et. al., avoids this issue because it is at the county rather than the individual landowner level. Suggesting things such as the use of mulch or manure to reduce NO₂ emissions is certainly a valid approach, but how do we verify that practice on an individual basis and at what cost? Similar issues occur with sequestration of CO₂. A producer that raises perennial grasses for seed sequesters a lot carbon. Unfortunately, if disease, weed, or pest pressures force the rotation to a different crop that involves tillage, much of the sequestered carbon is returned to the atmosphere. If the producer is being paid for carbon sequestered previously from growing perennial grasses, how do we measure and then account for payment or credit that is no longer viable? Most carbon markets address this issue with third party verification paid for by the producer. In many cases, the third party verification costs equal or exceed the value of the cash or credit going to the producer and this eliminates participation. There are many ways to avoid this problem by establishing minimum thresholds by crop, by practice, and by region for each adopted practice. I would encourage the group to visit with IndigoAg and some of the other brokers in carbon markets to demonstrate the value of this approach.

Thanks for the opportunity to weigh in.

John Talbott
Associate Director, Oregon Agricultural Experiment Station
Director, Sun Grant Western Regional Center
[Oregon State University](#)

Mobile: (406)-600-0131
Office: (541)-737-2194

The League of Women Voters of Oregon is a 101-year-old grassroots nonpartisan political organization that encourages informed and active participation in government. We envision informed Oregonians participating in a fully accessible, responsive, and transparent government to achieve the common good. LWVOR Legislative Action is based on advocacy positions formed through studies and member consensus. The League never supports or opposes any candidate or political party.

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August 4, 2021

To:	Oregon Global Warming Commission, Catherine MacDonald, Chair
Email: Oregon.GWC@Oregon.gov ; cmacdonald@tnc.org	
Re:	OGWC final draft of Natural and Working Lands Proposal – Support with comments

The League of Women Voters of Oregon’s expectation was that the Oregon Department of Forestry (ODF) and other agencies specified in Governor Brown’s [EO 20-04](#) would be presenting their final plans to meet the Governor’s climate goals on June 30 (now extended to August 4). ODF has not yet provided its final plan.

Each agency called out in the Executive order was directed to provide their agency’s plan towards meeting these specific targets collectively to “reduce its GHG emissions by: (1) at least 45 percent below 1990 emissions levels by 2035; and (2) at least 80 percent below 1990 emissions levels by 2050.” In 1990, there were **56 million metric tons of CO2e** emitted annually in Oregon.

The unfunded Oregon Global Warming Commission was charged by the Governor to develop and submit a **proposal for setting a carbon sequestration goal** for Oregon’s natural and working lands, working in conjunction with ODF, Oregon Dept. of Agriculture (ODA) and the Oregon Watershed Enhancement Board (OWEB). The OGWC proposal points out that this carbon sequestration “equates to a **reduction to 32 million metric tons CO2e (MMTCO2e) in 2035 and 12 MMTCO2e in 2050**. Aligning with the new federal economy-wide goal of reducing in-state emissions by at least 50 percent by 2030, Oregon would need to reduce net emissions to at least 32 MMTCO2e by 2030. Assuming a constant level of emissions reduction from 2019 to 2050, our current emissions target for 2030 is approximately **40 MMTCO2e**.”

The LWVOR’s new forestry positions adopted this summer state: *“all benefits of the forests—ecological, human and economic—are inextricably interconnected. Healthy forests are essential to habitat for a diversity of plant and animal life, to the hydrologic cycle, and to carbon storage to mitigate global warming. In addition, healthy forests are essential to a forest products industry with the jobs and goods they provide, and to the economic and aesthetic values of their recreational opportunities. Therefore, The League of Women Voters of Oregon supports laws and policies to ensure that forest management (for timber extraction, recreation or any other activity) is carried out in a manner that will sustain healthy forests, streams and habitats.”* In addition, one of our forestry positions says *“Full accounting of all costs, including cumulative*

ecological impacts, of timber harvests and other forest uses must be considered in forest activity decisions.”

We are delighted to see that the OGWC also recognizes these values in their current proposal, released on July 19th. We are glad to see the commission has incorporated the many hours of

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public testimony and scientific research that they solicited in coming up with their recommendations. They affirmed that natural and working lands can play a significant role in reducing atmospheric CO₂e carbon emissions.

They state that as of 2019 data, Oregon’s trees currently sequester 12% of US emissions annually, but this figure could be increased by 10-20% by sequestering **an additional 4 to 7 MMTCO₂e per year** in Oregon’s natural and working lands and waters **by 2030**, and 5 to 8 MMTCO₂e relative to a 2010 to 2020 net carbon sequestration business-as-usual baseline. This is their Outcome-based Goal which can be achieved through “climate smart forestry practices.” The OGWC recommends that ODF evaluate a bold set of scenarios including: **“lengthening harvest rotations on state and private forest lands; increasing protections for mature and old growth forests on state and federal lands as well as areas with high carbon storage potential and co-benefits for threatened and endangered species and improved water quality; implementing forest resilience treatments in fire-prone forests; and reforesting understocked stands and riparian floodplain habitats,”** which are the recommendations of the Oregon Climate Action Plan Natural and Working Lands Table in which the League participated, as well as those of many other conservation groups and climate scientists. We support these recommendations.

Another recommendation we heartily support is to **adopt revisions to the Oregon Forest Practices Act to improve climate mitigation and adaptation outcomes on private lands in Oregon**. Although the Private Forest Accord (MOU) is expected to make recommendations on the Forest Practices Act this fall for adoption in the next session, there is no way to know which climate issues are being considered or are beyond the scope of the MOU.

What we had hoped to see is a plan coming from the OGWC with target reductions starting immediately. Instead of recommending suggested metrics and specific goals for sequestration to start the process going, with actionable plans for increasing tree seedling development, their final recommendation is to start yet another funded committee, the **Natural and Working Lands Council**, to make metrics decisions! We had high hopes that this commission would be doing this work, working in conjunction with climate and technical experts at ODF and ODA! The OGWC knows the annual increases in sequestration capacity needed to meet the CO₂e 20-04 emission reduction goals, yet you defer the decision-making to a newly created and paid committee without scientific expertise to work out the details of OGWC’s goals, and that will result at the least another year of delay. **Why not start with assigning a number of acres for afforestation and reforestation this coming year, and then add or decrease these acres as needed, as future research comes in and the wildfire losses are calculated?** There will never be enough research, but action must get started today! ODF could be tasked with locating these added acres. We simply cannot wait for more federal guidance, legislation and funding before we start. The emissions we could be reducing can’t wait another minute. The planet is burning up while we delay and delay, with only a handful of years left to stop irreversible damage.

We understand that the OGWC is requesting quite a bit more funding to support these goal recommendations. LWVOR supported funding for OGWC in the 2021 session. However, we are

concerned with the request to fund another new group, recommending that “the Legislature should fund and the state should convene a blue-ribbon panel to develop a strategic plan for how to best facilitate adoption of the climate-smart forest management strategies...” Yet another

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funding request is for commissioning a study to evaluate the feasibility of potential funding mechanisms the state could establish to support natural and working lands sequestration strategies. A third request is for “strategic investment of state funds in the capacity to take advantage of new federal opportunities.” And “The Legislature should fund and direct DLCD to conduct an analysis of Oregon’s Statewide Planning Goals.” Other recommendations are funding for incentives and for OWEB (Oregon Agricultural Heritage Program), forestry, agriculture, and blue carbon.

And the final large funding request: “In order to continue to advance a natural and working lands sequestration goal and strategies, the Legislature should fund and create a Natural and Working Lands Council. The Council should be charged with establishing a baseline for the outcome-based goal and the activity and community impact metrics within a year of its establishment. To ensure that the metrics put the most vulnerable communities at the forefront of the potential benefits of increasing carbon sequestration, the Natural and Working Lands Council should be composed of a diverse group of council members, including BIPOC and Tribal representatives, as well as land managers, technical experts, conservation interests, and technical assistance providers.” Although LWVOR believes the OGWC certainly needs funding for this work, we are concerned that this funding discussion will take the place of action and add to delays—action that is needed NOW!

Given that climate change is already devastating the planet and forestry and certain agricultural practices can play a huge role in reducing emissions and keeping the planet cool, the lack of specific, quantifiable, measurable steps to be taken in this document is a disappointment, especially as it relies on voluntary participation exclusively, with monetary incentives and “recognition events” rather than regulation, although the Dept. of Justice (DOJ) has clearly established that ODF, (along with ODA and OWEB and DEQ) already have the regulatory authority to develop carbon offsets, and make much-needed reforms to the Forest Practices Act. We think the OGWC should be funded to continue the work they are recommending. We were very disappointed that Ways and Means included only minimal funding (.5 to 1 FTE) for ODF’s POP 160 this session, to staff the agency’s work on addressing our dire climate emergency. Clearly, addressing climate issues is a high priority of Board of Forestry members as well as the general public and certainly for LWVOR. We think that you are in the best position to make tough decisions and create these metrics yourselves in consultation with ODF’s and OSU’s climate scientists and technical staff, based on current best science, climate-smart forest practices and the existing FIA inventory already at hand. This includes defining “the number of acres with adoption of soil health practices, acres of maintained resource lands, acres of riparian reforestation, and acres of urban forest canopy expansion, etc.”

The work is outlined in ODF’s Climate Change and Carbon Draft Plan:

- “Slowly extend harvest rotations to increase storage while maintaining wood fiberflow to the forest industry.
- Identify areas particularly susceptible to the deleterious effects of climate change and work to conserve them. This includes climate-sensitive habitats, areas of high conservation value, and areas of cultural significance that may become threatened by climate change...with input from tribal and community-based organizations.

- Explore aspects of community forests and operationalize these interests and facets to the extent practical... Public-private partnerships may provide communities with a greater ability to successfully manage the forests that surround and support them.
- Restore insect and disease impacted areas to productive forests through removal of susceptible species and use of site appropriate species and...managed to restore ecosystem services, including carbon sequestration, through the use of appropriate alternative species and stand management.
- Identify areas that have high carbon storage potential, especially for those that can provide benefits for threatened and endangered species habitat, water quality, and educational and recreation opportunities for Oregonians.
- Identify and operationalize carbon storage in harvest operations. Establish a mechanism to maintain forest carbon on the site when stands are harvested by increasing soil carbon with woody debris, utilization of biochar ... and additional alternatives to burning biomass in the forest.”

The metrics should include a prioritized list with dates identified to meet specified target goals that relate to the amount of MMT of CO₂e to be reduced, and the number of acres that will be treated for adaptation (prescribed fire, thinning, afforestation and reforestation) and the regions identified where this treatment work will be done. **Some of this work is included in the recently passed SB 762 (2021).** Carbon accounting must also include fossil fuel emissions from all forestry operations, including the transportation of logs and wood products, which currently is not included in forest carbon calculations, which some scientists calculate produces greater emissions than the transportation sector.

The OGWC and ODF might consider creative options, other than relying on funding by the Legislature. Is there a way to combine [forest easements](#) with a commercial [forest offset market, consolidated and managed by a state or federal agency](#)? ODF could set standards similar to the [Forest Stewardship Council \(FSC\)](#) requirements for these easements and create a competitive [reverse auction](#) that would compensate private forestland owners willing to preserve their mature and natural mixed forests, and harvest on longer rotations.

To help increase the tree nursery supply, small and large forest owners could be encouraged and advised on how to collect and plant a variety of tree seeds from their own properties for sale. These seedlings would be suited to the local weather conditions, soils and elevations, thereby increasing diversity to meet changed climate conditions. Other potential creative solutions to assure longer rotations and better climate-smart forestry practices can be found [here](#). We hope the OGWC consider other creative options.

We appreciate all the work that has been done on this plan but believe more can be done to address the urgency of our climate emergency. We look forward to working with you to address this urgency. Thank you for the opportunity to provide public input on this draft document.

Rebecca Gladstone	Claudia Keith
LWVOR President	LWVOR Climate Coordinator

Josie Koehne

LWVOR Forestry Portfolio

Thank you for listening to our concerns this afternoon. Here is the latest working draft of the Introduction to Climate-Smart Adaptation with citations. Please don't hesitate to contact me if you have any questions or need help promoting climate-smart principles.

Charisse Sydoriak

Subject: Re: SOCAN Cathy Macdonald meeting

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Intro to climate smart
adaptation_cs_July 30

An Introduction to Climate-Smart Natural Resources Conservation (by Charisse Sydoriak)

- Ecosystems can no longer be preserved or restored to some sort of historic or “pristine condition” due to the rapidity of climate change and the far reach of human influence. Addressing the growing threats brought about or accentuated by climate change requires a fundamental shift in the practice of natural resource management (Glick et al. 2021, Schuurman et al. 2020, Stein et al. 2014).
- The future climate will be the primary factor determining vegetation conditions and species viabilities in this century. In the face of rapid climatic changes, species will be faced with one of three potential responses: adapt in place; shift in distribution to track with evolving suitable conditions; or go extinct.
- For valued species and ecosystem services to persist, diverse natural resources management activities must be considered over extended timescales and geographic scope. Management activities need to be evaluated continuously to determine whether goals, objectives, and assumptions remain viable.
- Being “climate-smart” is “the intentional and deliberate consideration of climate change in natural resource management, realized through adopting forward-looking goals and explicitly linking strategies to key climate impacts and vulnerabilities” (Stein et al 2014). It entails **INTENTIONALLY** making a transition from a paradigm of protection and restoration (resisting change), to one that anticipates and actively manages for uncertain yet plausible

future conditions. The challenge is to manage for acceptable outcomes, with uncertainty clearly in mind.

- Climate-Smart Conservation: Putting Adaptation Principles into Practice (Stein et al 2014) offers guidance for designing and carrying out natural resources management activities in the face of a rapidly changing climate.
- Key characteristics of the “Climate Smart” approach are:
 - ✓ **Linking actions to climate impacts.** Natural resources management strategies and actions are designed specifically to address the impact of climate change in concert with existing threats. Actions are supported by an explicit scientific rationale and understanding of potential climate vulnerabilities.
 - ✓ **Embrace forward-looking goals.** Management goals focus on future, rather than past conditions. Strategies take a long view (decades to centuries) but account for near-term challenges and needed transition strategies.
 - ✓ **Consider broader landscape context.** On-the-ground actions are designed in the context of broader geographic scales to account for likely shifts in species distributions, to sustain ecological processes, and to promote collaboration across land management boundaries.
 - ✓ **Adopt strategies robust to uncertainty.** Strategies and actions ideally provide benefit across a range of possible future conditions to account for uncertainties in future climatic conditions, and in ecological and human responses to climate shifts.
 - ✓ **Employ agile and informed management.** Natural resources managers and the public embrace experimentation, continuous learning and dynamic adjustment to accommodate uncertainty--regularly taking advantage of new knowledge to cope with rapid shifts in climatic, ecological, and socioeconomic conditions.
 - ✓ **Minimize carbon footprint.** Adopt strategies that minimize energy use & greenhouse gas emissions and employ tactics that enable systems to naturally cycle and store carbon.
 - ✓ **Account for climate influence on project success.** Monitor the results of actions taken. Avoid investing effort likely to be undermined by climate-related changes unless part of an intentional strategy.
 - ✓ **Safeguard people and nature.** Adopt strategies and tactics that enhance ecosystems’ capacity to protect human communities and co-beneficial biota from climate change impacts.
 - ✓ **Avoid maladaptation.** Take care not to exacerbate human/climate-related vulnerabilities or undermine conservation goals and broader ecosystem sustainability.

Climate-Smart Adaptation Process Cycle

There are several change adaptation planning frameworks to choose from. The process cycle shown in Figure 1 demonstrates the iterative nature of the National Wildlife Federation climate-smart approach. Note that there are opportunities throughout the process to interact with stakeholders. Stakeholder engagement is essential in steps 1, 3, and 4.

Step 1: The first step is to clearly articulate values of concern in a collaborative manner and describe why they are important ecologically and socioeconomically. The purpose of the organization's goals for a resource is often defined in law or policy, but sociopolitical concerns (e.g., equity) should be integrated in the process.

Step 2: The next step is what makes the climate-smart process unique. The values identified in step 1 are evaluated for their vulnerability based on the best available science and global climate change modeling to determine if those values are likely to be affected positively or negatively by climate change. All living things exist within a range of conditions that may not be available in the future climate. Vulnerability is assessed by looking at exposure potential over time, inherent sensitivity, and adaptive capacity. At a minimum, the value-of-interest is examined relative to existing stressors such as pollution, habitat loss, or invasives and its physiological vulnerability to increasing temperatures and changes in precipitation in the next decade, mid-century, or longer. This step requires expert knowledge, geospatial tools, and review of the scientific literature.

Step 3 requires critical reflection on the vulnerabilities developed in step 2 for a reality check. If the value is at high risk in the face of climate change, the original goals and objectives may be unrealistic unless the value can survive somewhere else. When this occurs, the goals and objectives should be intentionally revised.

Step 4: In step 4, a suite of adaptation options or “strategies” are identified based on the vulnerability assessments (step 2), and on management feasibility and cost (step 3). Step 4 entails looking at plausible future conditions (e.g. scenario planning) to find places where valued resources could persist with or without management intervention; and intentionally deciding where, why, and how to take action to protect values-at-risk. A simple tool called the Resist-Accept-Direct (RAD) decision framework which “captures the entire decision space for responding to ecosystems facing the potential for rapid, irreversible ecological change” is introduced below to facilitate development of realistic management strategies across space and time.

Climate-Smart Approaches/Strategies: Making climate-smart decisions in the face of uncertain future conditions can be overwhelming. Fortunately, the Resist-Accept-Direct (RAD) Framework (Glick et al. 2021) narrows the decision space to only three strategies (Table 1). Common to all is a commit to “intentionally intervene to shape the trajectory of ecosystem change” based on “underlying goals and values, and motivations for taking each approach.” All three strategies are warranted simultaneously depending on acceptable outcomes and where, when, and why management action is being considered.

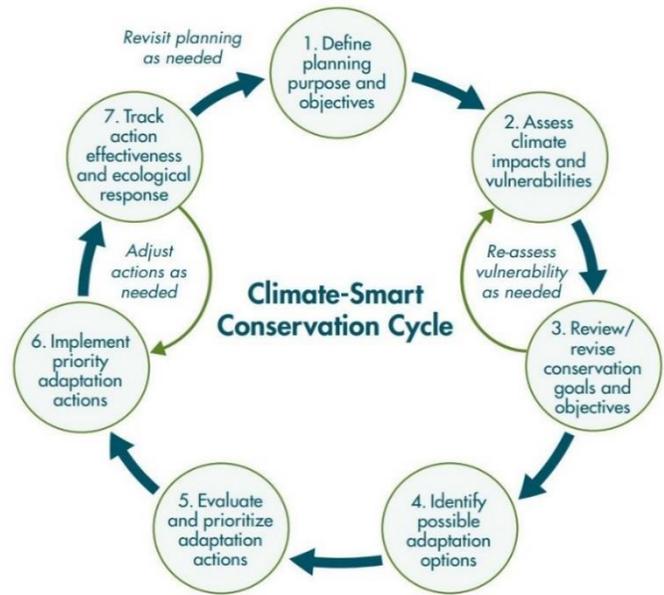


Figure 1. Climate-Smart Adaptation Process Cycle

Table 1. Resist-Accept-Direct (RAD) approaches (modified from Schuurman et al. 2020)

Category	RESIST Change	ACCEPT Change	DIRECT Change
How is the approach defined?	<i>Work to maintain or restore ecosystem processes, function, structure, or composition based upon historical or acceptable current conditions</i>	<i>Allow ecosystem processes, function, structure, or composition to drift autonomously (away from historical conditions), without intervening to alter the trajectory of change</i>	<i>Actively shape ecosystem processes, function, structure, or composition, resulting in a new ecosystem configuration based upon desired conditions and ecosystem services</i>
What each approach may entail	<ul style="list-style-type: none"> • Reduce the magnitude of directional transformative forces • Reduce the ecosystem effects of forces • Restore changing ecosystems to a more historical condition • Monitor to look for unforeseen consequences and evaluate success and feasibility of resisting 	<ul style="list-style-type: none"> • Avoid acting to alter the magnitude, trajectory, or ecological outcome of directional transformative forces • Monitor to see what happens, look for unforeseen consequences, and consider the need for active intervention • Possibly take management actions other than active intervention such as educating stakeholders 	<ul style="list-style-type: none"> • Act to direct the magnitude and effects of directional transformative forces • Direct ecosystems toward a specific condition that differs from the past but is more resilient to future climatic conditions • Monitor to look for unforeseen consequences and assess if trajectory of change aligns with expectations
Desired Outcome/ Goals	Persistence or restoration of historical conditions and services, using a retrospective benchmark	New conditions and services resulting from intentionally not guiding change. No specific benchmark needed	New conditions, clearly defined, intentionally sought and ideally part of a self-sustaining system
Motivations for each approach	<ul style="list-style-type: none"> • Conserve historical or current conditions • Retain existing or re-create former ecosystem services • Buy time for autonomous species response or further management actions 	<ul style="list-style-type: none"> • Conserve some ecosystems in an unmanipulated condition • Insufficient resources (e.g., funds or knowledge) or inability to shape the trajectory of change • Desirable ecosystem services are not threatened 	<ul style="list-style-type: none"> • Provide a new set of conditions and ecosystem services preferable to those that would result from accepting change, or where resisting change is considered futile • New conditions can be envisioned from geographic analogs or as novel systems

Step 5: An action plan is produced in step 5. To support the plan, stakeholders need to be educated starting with the original goals and objectives (step 1) and walked through the findings in steps 2-4 to show why, where, when, and how goals and objectives can or cannot be attained based on the best available science, plausible future condition forecasts, time constraints, and available resources (costs). The plan should identify assumptions made and provide the means for evaluating success based on climate sensitive metrics. In addition to articulating the strategic framework (step 5), the action plan should prescribe implementation tactics and projects. The “Adaptation Workbook” (Swanston et al. 2016) provides a “menu of adaptation strategies and approaches” to facilitate project level action planning and implementation in forest ecosystems.

Steps 6 & 7: During implementation (steps 6 & 7) it is likely that adjustments will be needed. This means that metrics need to be regularly monitored and an administrative structure set up to be responsive to unforeseen situations. The plan implementors should take the long view and be humble, nimble, and responsive when things don’t go as planned. When conditions warrant, the planning process should be reinitiated to validate and correct original assumptions and planned actions.

Case Studies

The framers and decision-makers who worked on the case studies presented in this guide may or may not have explicitly used the terms and concepts described in this introduction. To enable a transition to a common “climate-smart” vocabulary and demonstrate key concepts, we have elected to present each case study relative to its integration of the 9 key characteristics of climate-smart conservation and the RAD decision framework defined and presented in this introduction (Table 1). The case studies have not yet been written....

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July 30, 2021

Recommendations for OGWC Natural and Working Lands Goal

Submitted by: Amelia Porterfield, Senior Policy Advisor

Chair Macdonald and Members of the Oregon Global Warming Commission:

Thank you for the opportunity to provide comments as the Oregon Global Warming Commission finalizes its Natural and Working Lands recommendation per Governor Brown's Executive Order 20-04. The Nature Conservancy (TNC) recognizes that climate change is one of the defining challenges of our time and we value the ongoing opportunity to provide feedback to the Commission during this process. From the onset of the Commission's work on developing the state's natural and working lands goal, TNC has advocated that the recommendations acknowledge and ambitiously address Oregon's responsibility to enact policies that mitigate our contributions and enable the necessary responses to climate change. While climate change is a global challenge, within Oregon the impacts are already driving shifts in ecological processes and hydrological cycles, negatively impacting biodiversity and influencing human well-being across our state, often most burdening the vulnerable members of our society. Natural and

working lands have a key role to play in meeting our state’s climate mitigation targets and improving community resilience.

As the Commission nears a final vote on the proposal, we are pleased to see a strong Natural and Working Lands Goal with recommendations informed by scientific data that set targets and plans that utilize natural and working lands’ capability to sequester carbon. We strongly support the principles described in Section III of the report – Address the Urgency of Climate Action, Add to Existing Goals, Advance Equity, Create Accountability, and Ensure Continuous Improvement – and believe that following these five foundational principles in the implementation of this Goal will provide strong footing for the program.

The actions needed to reach the Executive Order’s Greenhouse Gas emissions reduction goals will require appropriate investment and active implementation. We suggest that within this report, the Commission include a recommendation that directs the leadership of related agencies to develop plans and schedules for the actions that can be implemented immediately and within current authorities. Agencies should also identify actions that require new rules, budget requests, and legislative concepts necessary to implement each of the OGWC’s recommendations and develop proactive plans to bring those actions to fruition.

We commend the Commission for your leadership and dedicated work over the past year that has resulted in the robust proposal you’ve brought forward. The Nature Conservancy looks forward to continued partnership with the Commission and related agencies to move these goals into practice and integrate natural and working lands into Oregon’s climate response.

Additionally, The Nature Conservancy was asked to review existing assessments of the potential climate benefit from actions on Natural and Working Lands in Oregon and to provide recommendations for setting a climate mitigation goal for the Natural and Working Lands sector. We offer the following technical information and background which is more specifically directed at determining the goal. The principle of continuous improvement should be taken with consideration given to any new information or learning that may emerge in the future.

• *Natural and Working Lands are a critical component of the atmospheric carbon budget and activities that maintain or increase carbon storage and sequestration and provide important climate change mitigation benefits alongside other societal co-benefits.*

The Earth’s carbon cycle includes the exchange of carbon and other greenhouse gases, expressed here in carbon dioxide equivalents (CO_{2e}), between the atmosphere and Earth’s plants, animals, water bodies, soils, as well as the lithosphere (rocks, fossil fuels) and anthropogenic storage. Natural and Working Lands (NWL) comprise a major portion of the terrestrial carbon storage (e.g., wood, roots, soils) across a range of land types (e.g., forests, grasslands, and wetlands). NWL are formally recognized under the Land Use, Land-Use Change, and Forestry (LULUCF) sector of the National Greenhouse Gas Inventory (NGGI), which reports GHG emissions and removals resulting from national economic activities following guidelines from the U.N. Intergovernmental Panel on Climate Change¹. NWL are the only sector of the economy that provides a net removal of greenhouse gases from the atmosphere².

NWL play an important role in Oregon’s climate mitigation goals by contributing to carbon sequestration and GHG reduction. Activities on natural and working lands (also known as “Natural Climate Solutions”) represent a critical opportunity to increase the removal of greenhouse gases from the atmosphere (e.g. by managing forests and farmland and restoring natural ecosystems) as well as to further reduce emissions (e.g. by curbing conversion of natural ecosystems and deferring timber harvest). At the national scale, Natural Climate Solution activities on NWL have the potential to sequester and store an additional 18 percent of the total U.S. emissions³. Recent analyses of NCS in Oregon highlighted the potential for NWL to provide a carbon benefit (i.e., relative increase in carbon storage compared to business-as-usual management) up to 9.5 MMT CO_{2e} per year by 2050

under an ambitious climate mitigation scenario⁴.

Mitigation benefits from Natural Climate Solutions in Oregon should be considered a complimentary effort and not in-lieu of real reductions in fossil derived GHG emissions. Real reductions in fossil derived GHG emissions are necessary to meet both climate mitigation and environmental justice goals. However, there are important opportunities for natural climate solutions that both provide climate mitigation and promote community resilience. Examples include restoration and reforestation of floodplains that provide increased sequestration and storage while attenuating flooding and reducing risk to communities.

• ***Setting an achievable goal for climate mitigation from Natural Climate Solutions within the NWL sector in Oregon***

Climate mitigation from Natural Climate Solutions refers to the management decisions on NWL to reduce greenhouse gases to the atmosphere either through avoided emissions or increased sequestration. **We recommend that the OGWC adopt a phased NWL goal to meet a targeted carbon benefit of 6.3 (± 0.7) MMT CO_{2e} per year by 2030 and 7.6 (± 0.8) MMT CO_{2e} per year by 2050** (Table 1). While this analysis does not include a full inventory of carbon stores on NWL, using rough unpublished estimates of the current sink, we estimate that these goals represent an approximate 12 – 15 % increase in the net carbon sink currently provided by NWL in Oregon. We express the climate mitigation goal in terms of the carbon benefit that could be achieved by 2030 and by 2050. The carbon benefit (MMT CO_{2e} per year) is the relative increase in carbon sequestration as compared to ‘Business-as-Usual’ management (*circa* 2010s) within the NWL sector. Table 1 shows the assumptions for BAU management, the NCS activities included in the target, and the relative contribution of each activity to the overall NWL sector target. Detailed methods on the calculation of carbon benefit from each activity can be found in the sources referenced here and in Table 1. We developed our recommendation by combining recent analysis of 12 NCS activities on natural and working lands in Oregon⁴ which modeled ‘Limited’, ‘Moderate’, and ‘Ambitious’ adoption of NCS from 2020 – 2050, with additional assessments of the carbon benefit from agricultural management practices⁶, tidal wetland restoration⁷, and urban reforestations⁸.

Oregon’s forests, particularly in the West Cascades and Coast Range ecoregions, are some of the most naturally carbon-rich forests in the world but currently store carbon volumes much less than their ecological potential⁹. In the PNW, older forests store significantly more carbon than younger forests¹⁰. Much of the carbon removed from forests during harvest is lost to the atmosphere shortly after harvesting¹¹, therefore deferring timber harvest results in substantial carbon benefits both by keeping stored carbon in the forest and by allowing continued sequestration, which can be relatively low in the initial years following clearcut or regeneration harvest¹². Deferred timber harvest can be achieved through multiple mechanisms ranging from lengthening harvest cycles or changing harvest strategies to partial harvest and alternative management on forestlands^{13,14}. In addition to reducing the near-term carbon emissions, managing for longer rotations and more diverse forest structure would result in long-term increases to in-forest carbon stocks¹⁴⁻²⁰. Timber harvest deferral, as modeled in Graves et al. 2020 under the ‘Moderate’ scenario could account for over 80% of the target mitigation for 2030 and 2050 (Table 1). Forest practices which result in deferring 27% of timber harvest annually from forests at historically low wildfire risk provide a carbon benefit of 3.4 (± 0.33) MMT CO_{2e} per year. Restoration and reforestation of floodplains can provide up to 1.86 (±0.1) MMT CO_{2e} per year while also providing floodwater attenuation, stabilizing water supplies, and reducing risk to communities. Together, these two activities account for 77% of the recommended NWL target for 2030 and 70% of the recommended NWL target for 2050.

We use the estimated carbon benefit from timber harvest deferral from the Moderate scenario in Graves et al.⁴. However, regardless of scenario, we found that deferring timber harvest, i.e., delaying a portion of annual timber harvest each year, has the single largest mitigation potential for any NCS

activity in the state of Oregon (2.3 – 5.2 MMT CO₂e yr⁻¹)⁴. The scenarios did not incorporate economic impacts or landowner willingness and the realized scale of carbon benefit from timber harvest deferral will depend on actual adoption of longer rotations and alternative silvicultural approaches in western Oregon forests. We recognize that efforts to implement timber harvest deferral proposals must consider the impacts on related industries and communities.

Agricultural management, by increasing the adoption of no-till and cover crops on applicable cropland acres and practicing nutrient management, can provide an additional 8% and 11% of the climate mitigation needed to reach the NWL targets for 2030 and 2050, respectively. The remaining activities, from tidal wetland restoration to sagebrush-steppe conservation, range across the state of Oregon's diverse ecosystems and provide increased sequestration and carbon storage while also contributing to important co-benefits (e.g. supporting rangeland and fishery productivity, providing habitat for biodiversity including endangered and imperiled species).

• ***Impacts of wildfire on Natural and Working Lands – Forest Sector Goals.***

Oregon's forests store on the order of 3 billion metric tons of carbon across all ownerships in various pools that include standing live trees, standing and fallen dead trees, forest floor vegetation, and soils²¹. Oregon's forests are a net sink of carbon which sequester, across all ownerships and ecoregions, approximately 30.9 ± 7.4 MMT CO₂e per year²¹. Fires in Oregon's forests, which pose real concerns for human health, community, and forest resilience^{22,23}, are on average a relatively small source of carbon emissions estimated to be -3.8 ± 1.7 MMT CO₂e per year²¹. However, in extreme fire years such as 2020, wildfire emissions can be substantial and depend upon fire severity and the pre-fire condition of the forest²⁴. Wildfire activity is increasing in Oregon in association with climate change coupled with other natural and human disturbances²⁵⁻²⁷ and a legacy of past forest management activities that resulted in uncharacteristically high densities and fuel conditions in many forests²⁸. In Oregon, important variation across ecoregions can help prioritize strategies for climate adaptation in dry fire-prone forests and climate mitigation in highly productive wet forests that are less fire-prone²⁹.

In dry fire-prone forests, forest management practices (i.e., treatments) to improve forest health using ecologically designed mechanical forest thinning and managed fire are widely accepted as important for climate adaptation. These forest health treatment result in immediate and short-term emissions of carbon into the atmosphere²⁹. The long-term effect of these treatments on forest carbon stocks and flux is uncertain. In a recent review of current literature, colleagues at TNC found that most studies on the carbon effects of forest treatments on carbon in the western U.S. were conducted at relatively small spatial (<50,000 acres) and temporal (<50 years) scales and thus, do not evaluate the climate mitigation potential of restoration in the context of changing climate and wildfire regimes³⁰. Still, based on the current science, forest restoration treatments over large scales is likely to stabilize carbon over time by minimizing losses to intensifying wildfires in fire-prone forests with relatively low potentials for growth and regeneration³¹⁻³⁶. The Klamath Mountain, East Cascades, and Blue Mountain ecoregions represent areas of the State where carbon stabilization strategies and forest treatments aimed at climate adaptation make more sense than climate mitigation strategies.

In Oregon, two ecoregions, the Western Cascades and the Oregon Coast Range, account for 58% of the annual net CO₂e in live trees as well as accounting for 52% of Oregon's forest carbon stocks²¹. The moist coniferous forests found in these ecoregions are generally characterized by an infrequent, stand-replacing (i.e., high-severity) fire regime and, although fire frequencies and severities are expected to increase across the west due to climate change, the relative fire frequency is likely to remain low in these moist ecosystems³⁷. In these wetter, highly productive, and less fire-prone ecoregions, forest management practices such as lengthened rotations, reforestation, afforestation, and increased stream protections present significant opportunities to rapidly sequester and store

substantially more carbon^{3,38}. Along with the Willamette Valley, these ecoregions comprise the land base considered appropriate for natural climate solutions related to timber harvest deferral described above.

- ***Gaps and Future Research Needs.***

Our analysis of the carbon benefit associated with changing management within the NWL sector does not provide estimates of how much carbon is moving in and out of the NWL carbon pools. Oregon's Greenhouse Gas Inventory (OGGI) will provide an initial snapshot of the carbon flux associated with the NWL. However, climate change is expected to further stress ecosystems across Oregon, and many NWL already face threats due to a combination of natural and anthropogenic disturbances which makes the future of the land sink uncertain. Land use and management of NWL can affect the potential for NWL to store and uptake carbon, while climate change can affect ecosystem carbon balance by changing the rate of carbon uptake by vegetation, the rate of decay and decomposition of organic matter and soils, and by increasing the frequency and magnitude of extreme events such as wildfires. Current inventory methods are not sufficient to draw conclusions about the potential of NWL subsectors to store and sequester carbon these changing conditions. Thus, comprehensive process-based models which incorporate anthropogenic land-use trends, natural disturbances, and climate change projections are needed to better understand how NWL in Oregon may serve as a carbon sink into the future.

A relevant example can be found in a recent research partnership between TNC in California and USGS wherein they used the Land Use and Carbon Scenario Simulator (LUCAS) model to improve upon the coarse estimates provided by the EPA State Inventory Tool (SIT)³⁹. The LUCAS model is designed to track changes in land use, land cover, land management and disturbance and report their impacts on ecosystem carbon storage and flux⁴⁰. The research partnership in California showed that carbon storage in terrestrial ecosystems was projected to decline in nearly all future scenarios and highlighted that land management activities, particularly by limiting land use changes, could consistently reduce the loss of net ecosystem carbon regardless of future climate scenario⁴¹. A similar effort could be undertaken for Oregon. It would allow land use changes across Oregon to be combined with climate change projections and, by spanning NWL subsectors, would facilitate a better understanding of the likely effect of NWL management activities over time on Oregon's GHG goals.

- ***On-going research on the use of incentives to promote NCS in the NWL – Forest sector.***

Realizing the potential increased carbon benefit on NWL depends on increased adoption of management activities that increase sequestration, protect existing carbon stores, and reduce emissions within the NWL sector. As discussed above, significant increases in carbon storage and sequestration are possible in the NWL-Forest sector by increasing time between timber harvests and/or encouraging structural diversity and older aged forests. However, increasing adoption of silvicultural strategies to increase carbon storage in Oregon's forests will likely require the development of incentive and capacity-building programs for forestland owners.

During the last year, we surveyed non-industrial private forest owners, who comprise 18% of forestland ownership in western Oregon, about their forest management goals, attitudes, and preferences as well as characterize their willingness to participate in hypothetical forest carbon incentive programs (Graves et al., *unpublished*). The hypothetical incentive programs included key elements from other programs such as the USDA conservation reserve program and American Forest Foundation and TNCs family forest carbon program and were described to landowners in terms of an initial incentive payment or sign-on bonus, an annual payment for program implementation, cost-share for creating and implementing a forest management plan, and contract length. Each program also included one of three forest management changes ranging from most strict ("No timber harvest for the duration of the contract. Any deadwood removal must be

reported.”) to more flexible (“Thinning and partial harvest permitted, for personal or commercial use. Cumulative harvest can not exceed the estimated 5-year growth volume for your forest, as specified by a management plan. All harvest and deadwood removals must be reported”). Our initial analysis of the survey data [Graves et al., unpublished] shows that up to 27% of nonindustrial private landowners in the Coast Range, Willamette Valley, and West Cascades would consider enrolling in forest carbon incentive programs that limited cumulative harvest to less than 5-years of growth volume over 10 to 20 years, offered \$50/acre annual payments, and provided a 50-75% cost share for management plan development. Respondents were generally opposed to incentive programs that places strict limits on timber harvest, but were supportive of overall program goals and many were eager for help to sustainably manage their lands – pointing to a need for capacity support for these landowners. While further research is warranted, these initial results support the development of incentive-based and capacity building programs for forest management to meet NWL carbon targets.

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NWL Sector	Action	Business-as-Usual (ca. 2010s)	2030 Target CO ₂ e / yr (MMT)	2030 Target Activity Rate	2050 Target CO ₂ e / yr (MMT)	2050 Target Activity Rate	Source
Rural Forests	Timber harvest deferral in portions of western Oregon with historically lower wildfire risk	3.4 BBF harvested/yr	-3.36	27% of annual harvests deferred	-3.45	27% of annual harvests deferred	Graves et al. 2020 (moderate scenario)
	Replanting after wildfire on federal forests	9-12% of moderate to high severity burned areas on federal forests replanted	-0.12	Increase by 100%	-0.24	Increase by 150%	Graves et al. 2020 (moderate scenario)
	Riparian reforestation	5920 ac / yr	-1.47	Increase by 650%	-1.86	Increase by 650%	Graves et al. 2020 (ambitious scenario)
	Avoided conversion of forests to rural / urban development	5135 ac / yr	-0.48	Reduce by 100%	-0.52	Reduce by 100%	Graves et al. 2020 (ambitious scenario)
Urban Trees	Afforestation/reforestation	unknown	-0.074	4000 acres/year (32,000 by 2030)	-0.22	4000 acres/year (112,000 by 2050)	Cook-Patton et al. 2020
Agriculture	Use of Cover Crops	100908 ac (2% cropland)	-0.034	10% of cropland	-0.12	50% of available cropland	Moore-Kucera et al. 2019
	No-Till Agriculture	996061 ac (10% cropland)	-0.38	20% of cropland	-0.65	84% of available cropland	Moore-Kucera et al. 2019
	Nutrient management	193,000 Mg N applied across all croplands	-0.083	Decrease by 15%	-0.083	Decrease by 15%	Moore-Kucera et al. 2019
Sagebrush-steppe	Restoration from invasive annual grass	13813 ac / yr	-0.2	Increase by 200%	-0.35	Increase by 200%	Graves et al. 2020 (ambitious scenario)
	Conversion to invasive annual grass	9884 ac / yr		Reduce by 100%		Reduce by 100%	Graves et al. 2020 (ambitious scenario)
Grasslands	Avoided conversion of grassland to cropland	2298 ac / yr	-0.06	Reduce by 100%	-0.06	Reduce by 100%	Graves et al. 2020 (ambitious scenario)
Blue Carbon	Forested tidal wetland restoration	10 - 47 ac/yr	-0.02	2471 acres restored by 2030	-0.02		Beers et al. 2021
Totals			-6.28		-7.57		

Oregon Global Warming Commissioners,

Thank you for your leadership in developing the Natural and Working Lands Proposal. I was glad to see the ambitious sequestration targets of an additional 4 to 7 million metric tons of carbon dioxide

equivalent per year in Oregon's natural and working lands and waters by 2030 (that are additional to emissions reductions goals).

In particular, I thank you for

1. Recognizing the co-benefits of increasing carbon sequestration on Oregon's natural and working lands,
2. Including activity-based goals to track progress toward a carbon sequestration goal,
3. Highlighting the importance of protecting and maintaining natural and working lands, which is crucial for their ability to sequester carbon, and
4. Urging the state to consider community impacts, focusing on public health improvements and economic opportunities, while reducing risks to vulnerable communities from climate impacts.

Oregonians strongly support your bold new climate action.

Sincerely,

Dr. Deborah Clark

Dear Oregon Global Warming Commissioners,

Thank you to the OGWC and partners for setting ambitious sequestration targets to sequester an additional 4 to 7 million metric tons of carbon dioxide equivalent per year in Oregon's natural and working lands and waters by 2030 (that are additional to emissions reductions goals). Your report centers around climate-impacted communities, environmental justice, and tribal priorities.

We support the recommendation to form both a Natural and Working Lands Council to establish a baseline for carbon sequestration on natural and working lands and a blue-ribbon panel to develop a strategic plan for how to adopt climate-smart forest management strategies in Oregon. We agree with the need for new funding and new capacity within Oregon's state agencies and the need to work with federal agencies to ensure federal lands are part of Oregon's NWL goal.

It is critical that we promote longer logging rotations on state and private forest lands and additional protections for mature and old growth forests as well as areas with high carbon storage potential and co-benefits for threatened and endangered species and improved water quality. Improvements must be made to Oregon's natural and working lands inventory data and the Forest Practices Act to continue to advance climate and carbon sequestration outcomes in Oregon's forests.

The state should support ODF's Urban and Community Forestry program to increase urban tree cover and improve living conditions in low-income neighborhoods and stressing the importance of providing climate-smart NWL management education and training to support an equitable and just transition.

Please also recognize that better protections for mature and old growth forests and better forestry practices on private lands will also contribute to the Biden Administration's goal to protect 30 percent of lands and waters by 2030 and help counter the biodiversity crisis.

We need the state legislature to fund new climate change policy positions within the Oregon Department of Forestry to meet growing capacity needs.

With increased fires, we need to recognize that post-fire logging can result in significant carbon emissions that would have otherwise remained on the landscape for decades. We need to focus reforestation on ecosystems that are not able to recover naturally and avoid habitat conversion as a result of afforestation. Reforestation and afforestation can be useful climate-smart practices, but there must be safeguards in place to ensure that habitat (such as grasslands or wetlands) is not lost as a result. We should promote greater tree biodiversity, which increases carbon sequestration and resilience to pests and pathogens.

Please also recommend that the forestry sector emissions be included in Oregon Greenhouse Gas Sector-Based Inventory Data. The State Legislature should fund efforts to produce maps of remaining intact forests on public lands that identify forests with high carbon storage potential and biodiversity value.

Lastly, please also recommend continued opportunities for stakeholder engagement as the NWL Council develops metrics, state agencies begin to implement programs needed to meet the new carbon sequestration goal, and OGWC tracks progress toward meeting the goal. ODF (and related state agencies) should provide a plan and schedule for new rules, budget requests, and legislative concepts to implement each of OGWC's recommendations by November 2021.

Sincerely,

Mr. Nelson Mount

3620 Helms Rd Grants Pass, OR 97527-9556 jelmount@gmail.com

Global Warming Commission

Chair Macdonald and members of the commission

Please accept the attached comments on the Draft Natural and Working Lands Proposal, submitted on behalf of the Great Old Broads for Wilderness, Cascade Volcanoes Chapter.

Thank you, Darlene Chirman

Darlene Chirman

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Portland OR 7206

805-455-3541

darlene.chirman@gmail.com



Draft Natural and Working Lands Propo

TO:	Chair Madonald and Members of the Oregon Global Warming Commission
CC:	Oregon Board of Forestry
DATE: 8/1/2021	
RE:	Draft Natural and Working Lands Proposal, Oregon Global Warming Commission

Dear Chair Macdonald and Members of the Oregon Global Warming Commission:

Thank you for drafting a strong Natural and Working Lands (NWL) Proposal. This comment letter from the Cascade-Volcanoes chapter of the Great Old Broads for Wilderness focuses on the forestry aspects of

the proposal, as that is aligned with the mission of our organization. We appreciate the aspects of the proposal addressing carbon sequestration potential of agriculture, both farming and ranching, and Blue water, marine and coastal wetlands, but leave those components for others with more expertise to comment. We appreciate that the report centers around climate-impacted communities, environmental justice, and tribal priorities. Protecting and improving the management of Oregon forests must be a central component of the state’s strategy to address the joint climate and extinction crises facing Oregon, the nation and the world.

The need is urgent for Oregon’s state land management agencies to expand their missions and goals to incorporate carbon storage and sequestration. Natural climate solutions, including forest protection, are some of our best near-term options for mitigating and adapting to the impacts of climate change. State agencies need to lead Oregon in a direction that takes climate science seriously, and immediately begin work on policies that increase natural carbon sequestration and reduce emissions from logging. This proposal represents a significant step for Oregon.

Great Old Broads strongly supports the goal of the Natural and Working Lands Proposal to “ Set ambitious sequestration targets to sequester an additional 4 to 7 million metric tons of carbon dioxide equivalent per year in Oregon’s natural and working lands and waters by 2030” (that are additional to emissions reductions goals).

We wish for the report to separate four major areas for forest carbon sequestration and storage that need to be treated somewhat differently: State owned and managed forests; private forests, federally owned and managed forests in Oregon, and urban forests.

We urge the Oregon Global Warming Commission, in coordination with the Oregon Department of Forestry (ODF), to focus the most aggressive action on State owned and managed forests, where the state has the most control. Protecting existing old growth and mature forests from harvest and thinning will have the most impact, allowing retention of carbon storage and increased carbon sequestration. Areas of state forests where timber harvests continue, forest management plans should explicitly include

carbon storage and sequestration goals, by practices including expanded riparian protection zones and longer harvest rotations. Areas protected as carbon reserves should also be managed for natural regeneration in the event of wildfire, as standing dead and burned trees retain 80-90% of the carbon from the pre-fire condition. Post-fire logging has the most negative impact of carbon storage.

The Department of Forestry is proceeding with the Western State Forest Habitat Conservation Plan (HCP)

for protection and recovery of endangered and threatened species under Federal law. These areas will have about 50% of the forest protected, and these areas should be managed to maximize carbon storage

for co-benefits. For state forests not covered by the HCP, the forest management plans should protect old growth and mature stands in carbon reserves, and also incorporate wider riparian zones and longer harvest rotations in the stand managed for harvest.

For private forests in Oregon, we concur with the report in recommending changes to the Forest Practices Act to explicitly include carbon storage and sequestration as management goals. It is unclear from the report what group is working on the recommendations “by the end of 2021 that would be formalized through legislation during the 2022 session.” We request information on this and what opportunities there are for public input in this process. We concur that changes in the riparian buffer rules to benefit aquatic and riparian species would have co-benefits for increased carbon sequestration. Co-benefits would also accrue for drinking water watersheds and the communities downstream that depend on these watersheds.

We urge investigation into options that would support communities in purchasing or obtaining easements for management of their drinking water watersheds. This management could protect and improve water quality and quantity, maintain and enhance aquatic species populations, and expand carbon storage and sequestration.

Washington and California have stronger regulations for timber harvest in private forests than Oregon. Reviewing their regulations to determine climate-smart practices that could be adopted in Oregon is urged. In addition, what incentives do these states provide that Oregon might adopt to encourage climate-smart practices beyond regulation? For example, if the timber harvest taxes are reinstated in Oregon, which we support, the tax rate could be lower for longer-rotation harvests. This increases the carbon storage and sequestration.

About 70% of Oregon forests are on federal land. While Oregon has less to say on forest management on

federal lands, working with the Oregon delegation will be important in increasing protection of old growth and mature forests, and creation of carbon reserves on federal lands. President Biden’s “30 x30”

campaign to protect 30% of lands and waters by 2030 will be supported by better forest protection in Oregon federal forests. Climate-smart forestry practices for harvested stands will also benefit carbon storage and biodiversity.

Urban forestry is the fourth area. Expansion of urban forests especially in low-income neighborhoods, which often have lower tree canopy density and proximity to polluting industry. We support the report recommendation for expansion of ODF’s Urban and Community Forestry program to increase urban tree cover and improve living conditions in low-income neighborhoods.

Planting trees is a long-term strategy, and while important for increased carbon sequestration and storage, it takes a long time for a new tree to contribute significant carbon sequestration and storage.

So

the near-term actions **must** protect existing older trees that already store massive amounts of carbon and sequester new carbon at a higher rate than young trees. So we must do both--protect older trees and plant new trees.

Thank you for the leadership of the Oregon Global Warming Commission in developing this Proposal. The Great Old Broads strongly supports the principle that natural climate solutions should be central to Oregon’s actions to address the joint climate and biodiversity crises. Thank you for the opportunity to

comment on this draft proposal.

Sincerely,

Darlene Chirman

Leadership Team member

Cascade-Volcanoes Chapter

Great Old Broads for Wilderness

Chair Macdonald and Members of the Oregon Global Warming Commission,

Thank you for this very thorough report, and the recognition of the importance of Oregon's forest practices in mitigating climate change.

Many Oregonians sadly now have a front row seat watching climate change in action. As I applaud the actions you propose, my greatest fear is that we will be too slow in implementing these actions. As a small woodland owner, I have watched the effects of our unprecedented heat event and the continuing drought on my own forest. Many trees are scorched and brown, and it is too soon to tell whether they can recover. Needles continue to rain down, on the trails, in my hair, in the dogs' water bowl. I do not see how the trees could survive if the next heat event lasts a week, or repeats at closer intervals. We need our forests in the long term for their ability to sequester carbon, but we need them right now for their cooling effect. We have been hearing about the weather created by wildfires themselves, but rarely hear discussions of the cooler and wetter local weather associated with a mature, healthy forest. During the heat event, I kept hoping to hear that a State of Emergency for Climate Change had been declared, with a moratorium on clearcutting, and on cutting trees younger than sixty years or older than eighty, a moratorium until our actions to decrease the CO2 emissions in Oregon are succeeding.

Your report gives me hope, but my own front row seat reminds me every day how quickly climate change is moving relative to our climate action.

With appreciation for your work,

Candace Bonner

Corbett, OR

Dear Oregon Global Warming Commissioners,

Thank you to the OGWC and partners for setting ambitious sequestration targets to sequester an additional 4 to 7 million metric tons of carbon dioxide equivalent per year in Oregon's natural and working lands and waters by 2030 (that are additional to emissions reductions goals). Your report centers around climate-impacted communities, environmental justice, and tribal priorities.

We support the recommendation to form both a Natural and Working Lands Council to establish a baseline for carbon sequestration on natural and working lands and a blue-ribbon panel to develop a

strategic plan for how to adopt climate-smart forest management strategies in Oregon. We agree with the need for new funding and new capacity within Oregon's state agencies and the need to work with federal agencies to ensure federal lands are part of Oregon's NWL goal.

It is critical that we promote longer logging rotations on state and private forest lands and additional protections for mature and old growth forests as well as areas with high carbon storage potential and co-benefits for threatened and endangered species and improved water quality. Improvements must be made to Oregon's natural and working lands inventory data and the Forest Practices Act to continue to advance climate and carbon sequestration outcomes in Oregon's forests.

The state should support ODF's Urban and Community Forestry program to increase urban tree cover and improve living conditions in low-income neighborhoods and stressing the importance of providing climate-smart NWL management education and training to support an equitable and just transition.

Please also recognize that better protections for mature and old growth forests and better forestry practices on private lands will also contribute to the Biden Administration's goal to protect 30 percent of lands and waters by 2030 and help counter the biodiversity crisis.

We need the state legislature to fund new climate change policy positions within the Oregon Department of Forestry to meet growing capacity needs.

With increased fires, we need to recognize that post-fire logging can result in significant carbon emissions that would have otherwise remained on the landscape for decades. We need to focus reforestation on ecosystems that are not able to recover naturally and avoid habitat conversion as a result of afforestation. Reforestation and afforestation can be useful climate-smart practices, but there must be safeguards in place to ensure that habitat (such as grasslands or wetlands) is not lost as a result. We should promote greater tree biodiversity, which increases carbon sequestration and resilience to pests and pathogens.

Please also recommend that the forestry sector emissions be included in Oregon Greenhouse Gas Sector-Based Inventory Data. The State Legislature should fund efforts to produce maps of remaining intact forests on public lands that identify forests with high carbon storage potential and biodiversity value.

Lastly, please also recommend continued opportunities for stakeholder engagement as the NWL Council develops metrics, state agencies begin to implement programs needed to meet the new carbon sequestration goal, and OGWC tracks progress toward meeting the goal. ODF (and related state agencies) should provide a plan and schedule for new rules, budget requests, and legislative concepts to implement each of OGWC's recommendations by November 2021.

Sincerely,

Ms. Frances O'Neal

9100 SW 80th Ave Portland, OR 97223-8981 momoneal77@gmail.com

To: Chair Macdonald and Members of the Oregon Global Warming Commission

From: Metro Climate Action Team Steering Committee

Date: July 26

Re: Yes to Oregon Serving as a Model for Climate Smart Forestry

Congratulations to the OGWC for issuing a set of recommendations that have the potential to make Oregon a model for the rest of the country in using natural climate solutions to mitigate the climate crisis. We are immensely appreciative that you acknowledge the significant potential Oregon's forest hold for increasing carbon sequestration.

We are pleased that you highlight the need for ODF to do a much better job in its approach to protecting and managing state and privately owned forests. We are concerned that the term "climate smart forestry" has been used loosely to cover for what in fact are destructive forestry practices on private and state lands. We want to emphasize what we view as the three most critical aspects of climate smart forestry that need to be applied to state and private forested lands (while recognizing that this list is not at all comprehensive):

- **Longer logging rotations of at least 80 years.** Longer rotations will not only allow our Northwest forest to at least begin to tap into their enormous potential to sequester and store carbon, these lengthened rotations will also lead to increased timber yield and quality – a true WIN WIN.
- **Identification of carbon-rich mature and old growth forests.** Let's face it. So little of our mature and old growth forest remain. These are some of the most carbon rich forests on the planet and must be protected as carbon reserves.
- **Retention of more green trees during harvest and promotion of diversity of species.** Most importantly, this approach both increases the resilience of our forest and provides for a better habitat for native species.

We are also very pleased that you want to establish a blue-ribbon panel to help the state determine how to ensure valid climate smart strategies are adopted across the state. We appreciate your recognition that the Oregon Forest Practices Act needs to be revised – in fact much strengthened if we are to increase the capacity of our forest to store and sequester carbon. Establishing a Natural and Working Lands

Council is a much needed action to ensure ongoing accountability to achieving your ambitious sequestration targets.

The hard work begins once these recommendations are accepted. Funding will be critical to achieve these vital goals. We thank you for your own hard work in bringing these recommendations forward and ask that you do all you can to help move these recommendations into actions so we are doing our part in mitigating the climate crisis.

Rand Schenck

Forestry Lead

Metro Climate Action Team

Dear Oregon Global Warming Commissioners,

Thank you to the OGWC and partners for setting ambitious sequestration targets to sequester an additional 4 to 7 million metric tons of carbon dioxide equivalent per year in Oregon's natural and working lands and waters by 2030 (that are additional to emissions reductions goals). Your report centers around climate-impacted communities, environmental justice, and tribal priorities.

We support the recommendation to form both a Natural and Working Lands Council to establish a baseline for carbon sequestration on natural and working lands and a blue-ribbon panel to develop a strategic plan for how to adopt climate-smart forest management strategies in Oregon. We agree with the need for new funding and new capacity within Oregon's state agencies and the need to work with federal agencies to ensure federal lands are part of Oregon's NWL goal.

It is critical that we promote longer logging rotations on state and private forest lands and additional protections for mature and old growth forests as well as areas with high carbon storage potential and co-benefits for threatened and endangered species and improved water quality. Improvements must be made to Oregon's natural and working lands inventory data and the Forest Practices Act to continue to advance climate and carbon sequestration outcomes in Oregon's forests.

The state should support ODF's Urban and Community Forestry program to increase urban tree cover and improve living conditions in low-income neighborhoods and stressing the importance of providing climate-smart NWL management education and training to support an equitable and just transition.

Please also recognize that better protections for mature and old growth forests and better forestry practices on private lands will also contribute to the Biden Administration's goal to protect 30 percent of lands and waters by 2030 and help counter the biodiversity crisis.

We need the state legislature to fund new climate change policy positions within the Oregon Department of Forestry to meet growing capacity needs.

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Please also recommend that the forestry sector emissions be included in Oregon Greenhouse Gas Sector-Based Inventory Data. The State Legislature should fund efforts to produce maps of remaining intact forests on public lands that identify forests with high carbon storage potential and biodiversity value.

Lastly, please also recommend continued opportunities for stakeholder engagement as the NWL Council develops metrics, state agencies begin to implement programs needed to meet the new carbon sequestration goal, and OGWC tracks progress toward meeting the goal. ODF (and related state agencies) should provide a plan and schedule for new rules, budget requests, and legislative concepts to implement each of OGWC's recommendations by November 2021.

Sincerely,

Mr. John Altshuler

2910 Grand Cayman Dr Eugene, OR 97408-7389 tomailakai@comcast.net

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

The temperate rainforests of the Pacific Northwest store even more carbon per acre than tropical rainforests, and larger, older trees everywhere store the majority of carbon across the landscapes. Studies have shown that protecting our mature temperate rainforests from logging would store the equivalent of approximately 8 years of regional fossil fuel emissions. This is an incredibly valuable climate solution that I am very grateful the Commission has recognized in its Natural and Working Lands Proposal.

I also strongly support the Proposal's recommendations to:

*Establish a blue-ribbon panel to develop a strategic plan for how to adopt climate-smart forest management strategies in Oregon, *Establish a Natural and Working Lands Council to establish a baseline for GHG emissions reductions and carbon sequestration, *Adopt improvements in the Forest Practices Act to continue to improve climate and carbon sequestration outcomes in Oregon's forests

It is very important that Oregon's GHG emissions from the forestry sector be accurately measured and tracked, ideally as part of DEQ's Greenhouse Gas Sector-Based Inventory Data. Partnering with the FIA to collect better data is a good start, but that data needs to be housed in the same place as all of Oregon's other GHG emissions.

The Proposal should also include the recommendation that the climate impacts from post-fire logging be assessed as part of ODF's environmental assessment process. Salvage logging removes carbon that would otherwise continue to be stored in dead trees on the landscape. Studies show that harvest-related emissions are far higher than emissions from wildfire (Law et al. 2018; Hudiburg et al. 2019). Logging burned forests also further degrades watersheds and hampers natural recovery.

Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Ms. Vicki Roloff
Portland, OR 97216

Dear Oregon Global Warming Commissioners,

Thank you to the OGWC and partners for setting ambitious sequestration targets to sequester an additional 4 to 7 million metric tons of carbon dioxide equivalent per year in Oregon's natural and working lands and waters by 2030 (that are additional to emissions reductions goals). Your report centers around climate-impacted communities, environmental justice, and tribal priorities.

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Sincerely,

Mr. Philip Ratcliff

4665 Tragen Ct SE Salem, OR 97302-3533

skazz999W@hotmail.com

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Sincerely,

Mr Chris Sheline

4515 SW Brugger St Portland, OR 97219-5246 csheline@gmail.com

Dear Oregon Global Warming Commissioners,

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Sincerely,
Mr Mac Kachinsky
203 Kincaid Rd Williams, OR 97544-9773
maxkachinsky@yahoo.com

Dear Oregon GWC members,

Your *Natural and Working Lands Proposal* is a great asset to the state as we face our considerable challenges with climate chaos and the economic losses and human suffering that are already in play and will increasingly accompany global warming.

As a tree advocate, I applaud your confronting the steps necessary to reach carbon sequestration levels in Oregon. The enforcing of longer logging cycles in state and private forests will be pivotal, as well as efforts to ensure federal forest policy in Oregon makes it possible to protect the enormous carbon storing potential here. Preserving our old growth forests will advance the Biden administration's goals for increasing biodiversity and protecting land and water; be sure to get the feds on board. They need to help us financially as we struggle to support our amazing carbon holding reserves and offer our rural workers lucrative employment in newly developed eco/sustainable ways as their industries transition

away from emissions-heavy logging and polluting large scale agriculture and factory farms. Rural job replacement is part of the climate equation in Oregon.

What I'd like to see in your proposal is an acknowledgment that our recent post-fire logging has negative implications ecologically and in terms of carbon sequestration. Likewise, it is time to admit that replanting is not creating a new forest and should be saved for lands that are not going to revert to their natural species-rich, self sufficient form. Wood may be renewable, but mature forests are not; our time frame for that has shrunk in a terrifying way. We must preserve what we have now.

Thank you for your efforts to come to terms with our dilemma. I hope you will stretch yourselves to look to "the seventh generation" (or further) as you plan, vowing, like a doctor, to do no harm inadvertently as you attempt to correct a dramatically out of balance system. This means resisting the allure of quick fixes that kick the problem down the road; setting up fail-safe systems; strict monitoring of results by independent and scientific bodies; and painstaking annual reviews, since all current science is saying climate change is already speeding up, with one climate crisis record breaking the last several times a year.

Sincerely,
Teresa Mueller
2059 Friendly St
Eugene, OR 97405

Chair McDonald and Members of the Commission:

My name is Ron Bunch and I have been following with keen interest the Commission's work on climate change and natural and working lands. I have had a long career in Oregon in land use planning and public administration and have a particular interest in the governance and community development aspects of this matter. I am offering most of initial comments on the OGWC's current proposal on

natural and working lands from this perspective. Also from a natural resources perspective I am offering additional comments.

Governance and Administration

Framing the Message is Critical: From a governance perspective the changing weather is a people issue and personal to all. It must be messaged as “people issue”. Skilled and locally sensitive messaging is essential to engage communities and develop locally appropriate climate solutions.

A Sound Governance and Administrative Foundation is Important to the NWL

Program : The governance and administrative foundation, including funding, needed to implement the OGWC’s recommendations must be thought through very early and given shape prior to the implementation phase, and revised as needed over time. As stated in other testimony this requires a meaningful engagement of a broad spectrum of stakeholders, most importantly land owners and natural resource dependent communities

NWL Climate Mitigation and Adaption Must Become Local/Community Based and Personal: Effective governance and administration, including accountability, adaption and mitigation efforts must take into account the Oregon’s varied geography and climate. Governance must be adapted to local circumstances including engagement of trusted and knowledgeable stakeholders and institutions.

State Agencies Must Develop Climate Mitigation Strategies and Coordinate Effectively : State agencies that have NWL responsibilities will have critical roles in implementing the OGWC’s recommendations. These agencies should develop their own climate, mitigation, adaption and resiliency plans specific to their mission. An example is the Oregon Department of Fish and Wildlife’s Climate and Ocean Change Policy. The governor’s office must provide unequivocal direction agencies to coordinate and provide and administrative framework to do so.

This Program Must Have Stable Funding; Reliable and permanent funding for the protection and restoration of natural and working lands and soil sequestration programs is essential. This should be a priority and should involve a strategic broad-based effort to identify potential funding sources and the subsequent development of reliable revenue streams and associated administrative frameworks. From this perspective it is concerning that the OGWC itself does not have an assigned budget and more staff.

Other Comments

The following are some other topics that could be acknowledged or given greater emphasis in the OGWC's proposal.

Access by Tribes to First Foods: The rights of tribes to access first foods should be acknowledged. Therefore emphasis should be given to restoration/preservation on lands and waters to support tribal access to first foods – plants, fish, and game.

The Overall Applicability of the Statewide Planning Goals . The Statewide Planning Goals have all have a direct relationship to climate. They provide an excellent implementing framework for the development of goals, policies and actions related to climate and natural and working lands. Even Goal 1, Citizen Involvement is applicable in an important way. For example, it provides a template that can be used in a modified way to engage communities in the discussion of climate issues. The state's Planning Goals should be audited to determine to what extent rulemaking can adapt them to address climate issues. Where rulemaking is not applicable, legislation may be needed.

The Economic and Community Development and Resiliency benefits of Natural and Working Lands Climate Mitigation and Land Restoration. The positive economic consequences to climate mitigation and land restoration and resource conservation should be emphasized to address the concerns of communities whose livelihoods are threatened by climate change. There is an important community development/ economic resiliency aspect to protection and restoration of natural and working lands and carbon sequestration.

Canopy Cover as an Environmental Justice Issue: Nature based climate solutions are essential to protect critical infrastructure in both urban and rural areas such as storm drainage systems, wastewater treatment, roads, and streets, etc.. Essential to a functional urban forestry program is the commitment to maintenance of trees. This requires the development of a skilled and committed work force and ongoing funding. The urban forest should be considered as an essential quality of life public utility.

A Blue Ribbon Panel to Incentivize Climate Smart Forestry. The needs of and perspectives of small timber landowners and operators should also be considered as part of the panel's work.

Scenarios for Oregon's Forests. Attention should be given to public and private lands that were harvested but were not fully restocked or were degraded by neglect/management. Also, there may be public and private lands that were once converted from forest to agriculture that are no longer productive or needed for that purpose. These large to relatively small land parcels could be reforested

or restored and managed to sequester more carbon and perhaps for timber products. Incentives to do so should be considered.

Conversion of Carbon Rich Natural Lands (Forests and Grasslands) to Agriculture (farming and intensive grazing. When this occurs there is often a sudden and dramatic loss of soil carbon. Where appropriate incentives and other voluntary efforts should be considered to retain the high carbon potential of these lands. Also there may be appropriate management measures to minimize carbon loss.

Protection and Restoration of Carbon Rich Tidally Influenced Ecosystems. There is the need to manage and remove, and when not feasible, upgrade/modernize tidal gates, dams, dikes and culverts in these areas. It should be noted that there are agricultural activities in some of these areas such as pasturage, shellfish growing/harvesting and cranberries.

Expand Climate Smart Training and Technical skills. This is very important. There is the need to support practical and academic training of a new generation of natural and working lands specialists to restore and manage natural and working lands. Well-designed governmental/private partnerships programs could jump-start this effort. These efforts could range from on the ground practical training and implementation of projects/programs to support of academic and research disciplines. Well designed, and stable funding programs, as discussed above is essential for this occur.

###

Dear Chair Macdonald and Members of the Commission,

Please consider the attached written comments on the draft Natural and Working Lands Proposal, which I am submitting on behalf of Beyond Toxics. Thank you for your efforts preparing this important proposal.

Sincerely,

Grace Brahler

--

Grace Brahler
Oregon Climate Action Plan & Policy Manager
Beyond Toxics
Email: gbrahler@beyondtoxics.org
Cell: (785) 393-1012

Pronouns: She, her, hers



BT Comments on
final draft NWL Propoc

TO: Oregon Global Warming Commission

FROM: Beyond Toxics

DATE: July 31st, 2021

RE: August 4th Meeting--Draft Natural and Working Lands Proposal

Dear Chair Macdonald and Members of the Commission,

We are submitting these comments on behalf of Beyond Toxics in response to the [Draft Natural and Working Lands \(NWL\) Proposal](#) posted for final consideration at the Oregon Global Warming Commission's (OGWC or Commission) August 4th meeting. Beyond Toxics is a statewide environmental justice organization advancing policies that ensure meaningful participation and cultivating grassroots leadership from Oregon's frontline, rural, and impacted communities.

Thank you very much for the strong stakeholder engagement efforts of OGWC and the Oregon Watershed

Enhancement Board (OWEB). We see many of the recommendations we shared reflected in the draft proposal and are encouraged by the Commission's receptiveness to stakeholder feedback. We appreciate the opportunity to offer the following recommendations to strengthen the draft proposal as well.

Inclusive and Equitable Implementation of Strategies

We appreciate the efforts to center the draft proposal around climate-impacted and historically disadvantaged communities, including Tribal, Black, Indigenous, and People of Color (BIPOC) communities. At the request of Beyond Toxics, NAACP's Oregon chapters and other allies, the Legislature passed [Senate Concurrent Resolution 17](#) during the recent legislative session and established an Environmental Justice Framework for Oregon. Through SCR 17, legislators resolved that "Oregon therefore must prioritize and empower these communities as valuable and equal decision-making partners in generating durable, creative and equitable policies to promote environmental justice and respond effectively to climate change." These communities have faced unique barriers to participation in the programs in place now and those yet to be developed and must have a seat at the table when discussing the future of Oregon's land management practices.

[SCR 17](#) also states that "Oregon's leaders recognize and respect that traditional ecological knowledge systems have been carried by Native American and other indigenous peoples for countless generations and must invite leaders holding this knowledge to participate in planning sustainable land management practices[.]" Agencies and lawmakers should work to learn from and integrate traditional best management practices and ecological knowledge when implementing climate-resilient land management programs and practices.

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To ensure a wide array of backgrounds and needs are incorporated, please recommend meaningful stakeholder engagement opportunities as the goals, metrics, and strategies to achieve them are developed and implemented. The Natural and Working Lands Council and coordinating state agencies should facilitate multi-stakeholder collaboration, both public and private, that includes: Tribes and BIPOC landowners, managers, and workers; farmers and ranchers engaged in a variety of types of agricultural practices including organic, conventional, regenerative and sustainable practices; small woodland owners and managers; soil and climate scientists; and environmental and water advocates.

Equitable Funding

To make the recommended soil health and climate-smart agricultural program (Rec. 3B, page 10) more equitable, please ensure funding for carbon sequestration projects reaches socially disadvantaged producers. Two ways to do this include:

- Setting aside funding specifically for socially disadvantaged producers. The Commission could recommend the establishment of a similar model/program to create an Equity Fund for Oregon farmers implementing climate-smart practices (consider [HB 3112](#) as an example). Please recommend the establishment and continual appropriation of monies to the fund to be provided to qualified applicants for the equity program.
- Debt forgiveness for socially disadvantaged producers. Producers of color have historically faced discriminatory policies and resulting debt, leading to significant reduction in land ownership by producers of color.¹

In addition to expanding urban forest canopy (Rec. 3C, page 11), the Commission should recommend support for community-based gardens and urban farms. For example, Beyond Toxics works with Huerto de la Familia, a community-based garden program that has plots throughout Eugene and Springfield. Huerto works to increase the health and economic security of Latinx community members living in Lane County by providing opportunities and training in organic agriculture and business creation to families. Another example includes Beyond Toxics' and NAACP's work in the Mims Community Garden, which provides an important space for Black community members in the Eugene/Springfield area. Supporting community-based gardens and urban farms will further aid in sequestering carbon and reducing heat island effects while offering sources of education, reducing barriers to entrepreneurship, building community connections, and providing local sources of nutrition.

Training, Technical Assistance, and Education

We are encouraged by the focus the Commission placed on providing training and technical assistance (see Rec. 3E, page 15). The shift in natural and working lands management that is needed to build climate-resilient communities and achieve our carbon emissions reduction and sequestration needs offers

¹ See Reiley, L. Relief bill is most significant legislation for Black farmers since Civil Rights Act, experts say. Washington Post, March 8, 2021, available at

<https://www.washingtonpost.com/business/2021/03/08/reparations-black-farmers-stimulus/>; Gilfillan, J. Mudbone Grown reimagines Black farming in Oregon. Oregon Public Broadcasting, February 19, 2021, available at https://www.opb.org/article/2021/02/19/oregon-mudbone-grown-black-farmers/?fbclid=IwAR0omW4a-0Pz1_JsXf6xAVYfKm-NYOYk6xnywBQKP48P9QbDTctGvxyhAGY.

2

the state a key opportunity to establish stable, living-wage jobs in the field of climate-resilient land management and make sure landowners and managers have the support they need to make ecologically sound decisions.

In finding ways to develop this workforce, ensure that communities have meaningful opportunities to express their specific needs and that the needs of historically disadvantaged, underserved communities are prioritized and met. The state should provide financial and technical support for locally-facilitated educational sessions for small-scale farmers and woodland owners to support the implementation of climate-smart and ecologically appropriate practices. Any technical assistance, education and outreach services should be provided in multiple languages and formats to ensure these programs are accessible and culturally competent. Agency staff must be equipped with the skills needed to meaningfully engage with producers and workers from a wide range of backgrounds and cultures.

Healthy Soils

We support the carbon sequestration practices included in the draft proposal (Appendix B). We want to encourage the Commission to more directly recommend that the proposed Natural and Working Land Council establish metrics for the adoption of those practices, which are currently referenced in the section summarizing Tribal and Stakeholder Input (beginning on page 6 of the draft proposal) to be used as a guide. We also want to encourage the inclusion of the following practices:

- Reduced and selective chemical inputs, which protects microbial health increasing the potential of

soils to sequester carbon.²

- Diversification of cropping systems, which can ensure that a diversity of carbon compounds is present in the soil, improving soil carbon sequestration potential.³

Further, as funding sources are explored (Rec. 2, page 8-9), please recommend funding be allocated to organic producers as well as for education surrounding the numerous climate and other co-benefits of organic production systems and crop rotation and diversification. This would further encourage the shift from conventional land and crop management practices (including monocropping) that hinder sequestration.

Water

In regard to water resources and carbon storage, we want to encourage the state to take a holistic, long-term approach to water-related climate needs. We support the protection and restoration of estuaries and coastal wetlands for their blue carbon sequestration potential (Rec. 3D, page 14). This effort will

³ Kane, D. Carbon Sequestration Potential on Agricultural Lands: A Review of Current Science and Available Practices. (2015). http://sustainableagriculture.net/wp-content/uploads/2015/12/Soil_C_review_Kane_Dec_4-final-v4.pdf. See also Kravchenko, A.N., Guber, A.K., Razavi, B.S. et al. Microbial spatial footprint as a driver of soil carbon stabilization.

Nat Commun 10, 3121 (2019). <https://doi.org/10.1038/s41467-019-11057-4>.

² Gunstone, T., Cornelisse, T., Klein, K., Dubey, A., and Donley, N. Pesticides and Soil Invertebrates: A Hazard Assessment. Front. Environ. Sci. (2021). <https://doi.org/10.3389/fenvs.2021.643847> (In 71% of cases studied, pesticides killed or harmed soil invertebrates including earthworms, ants, beetles and ground nesting bees.)

³

support climate adaptation needs of at-risk coastal communities in Oregon, and we encourage you to ensure opportunities for coastal communities to inform and respond to protection and restoration plans. In addition, we want to encourage the state to take a more comprehensive focus on all aquatic ecosystems. We ask that the OGWC also recognize the significance of floodplains, riparian buffers, inland wetlands, lakes, and reservoirs, which have been shown to be important for long-term carbon sequestration and atmospheric cooling.⁴ Managing our natural and working lands to support adequate water quality and quantity is an important co-benefit that is crucial for climate adaptation.

Thank you for your work and for this opportunity to provide feedback.

Sincerely,

Lisa Arkin, Executive Director, larkin@beyondtoxics.org

Grace Brahler, Oregon Climate Action Plan & Policy Manager, gbrahler@beyondtoxics.org

Wendy Mintey, Southern Oregon Environmental Justice Grassroots Organizer, wmintey@beyondtoxics.org

Beyond Toxics

Lane County Office: 120 Shelton McMurphey Blvd., Suite 280, Eugene, OR 97401

Jackson County Office: 312 N. Main St., Suite B, Phoenix, Oregon 97535

Phone: (541) 465-8860

⁴ Nahlik, A. M., & Fennessy, M. S. (2016). Carbon storage in US wetlands. *Nature Communications*, 7(1), 1-9, <https://www.nature.com/articles/ncomms13835.pdf> (discussing how carbon stored in inland freshwater wetlands is often overlooked but important for regional carbon storage); Tranvik, L. J. et al. (2009). Lakes and reservoirs as regulators of carbon cycling and climate. (2009). *Limnol. Oceanogr.* 54, 2298-2314, https://aslopubs.onlinelibrary.wiley.com/doi/abs/10.4319/lo.2009.54.6_part_2.2298.

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Sincerely,

Ms. Raven Sara

515 S Vannoy Creek Rd Grants Pass, OR 97526-8872 ravensacupuncture@gmail.com

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Sincerely,
Mr. Pat Uhtoff
78 4th St Ashland, OR 97520-2150
uhtoff@yahoo.com

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Mx. Lydia Kendall

12048 Takilma Rd Cave Junction, OR 97523-9835 tommygirl_113@hotmail.com

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Mr. Sagen Smith
2531 Eagle Creek Ln Ashland, OR 97520-3696 sagensmith@msn.com

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Mr. Philip Fraser

PO Box 818 San Juan Capistrano, CA 92693-0818 natureboy92552@gmail.com

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Sincerely,

Ms. Donna Sharp

26110 Bud Ln Veneta, OR 97487-9688

djripke1@aol.com

Dear Oregon Global Warming Commissioners,

The worsening effects of human-caused climate change are here, and the increasing number of people without homes and livelihoods due to associated disasters is rising and filling so many of us with constant dread for the future, especially when decision-makers are still doing nothing.

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Sincerely,

Ms. Holly Christiansen

796 Oak St Ashland, OR 97520-1263

cumba90@hotmail.com

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Mr. Daniel Beausoleil

4495 Cedar Flat Rd Williams, OR 97544-9686 mediation.center@earthlink.net

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ms Jaci Wilkins

1056 Beswick Way Ashland, OR 97520-3576 jaciwilkins@gmail.com

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Mr. John and Polly Wood
601 State St Hood River, OR 97031-1871
machjuan@yahoo.com

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222 Ollis Rd Unit 71 Cave Junction, OR 97523-9501 Lalive34@aol.com

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The state should support ODF's Urban and Community Forestry program to increase urban tree cover and improve living conditions in low-income neighborhoods and stressing the importance of providing climate-smart NWL management education and training to support an equitable and just transition.

Please also recognize that better protections for mature and old growth forests and better forestry practices on private lands will also contribute to the Biden Administration's goal to protect 30 percent of lands and waters by 2030 and help counter the biodiversity crisis.

We need the state legislature to fund new climate change policy positions within the Oregon Department of Forestry to meet growing capacity needs.

With increased fires, we need to recognize that post-fire logging can result in significant carbon emissions that would have otherwise remained on the landscape for decades. We need to focus reforestation on ecosystems that are not able to recover naturally and avoid habitat conversion as a result of afforestation. Reforestation and afforestation can be useful climate-smart practices, but there must be safeguards in place to ensure that habitat (such as grasslands or wetlands) is not lost as a result. We should promote greater tree biodiversity, which increases carbon sequestration and resilience to pests and pathogens.

Please also recommend that the forestry sector emissions be included in Oregon Greenhouse Gas Sector-Based Inventory Data. The State Legislature should fund efforts to produce maps of remaining intact forests on public lands that identify forests with high carbon storage potential and biodiversity value.

Lastly, please also recommend continued opportunities for stakeholder engagement as the NWL Council develops metrics, state agencies begin to implement programs needed to meet the new carbon sequestration goal, and OGWC tracks progress toward meeting the goal. ODF (and related state agencies) should provide a plan and schedule for new rules, budget requests, and legislative concepts to implement each of OGWC's recommendations by November 2021.

Sincerely,
Ms. Suzanne Zook
PO Box 601 Cave Junction, OR 97523-0601 suez51@yahoo.com

Dear Oregon Global Warming Commissioners,

Thank you to the OGWC and partners for setting ambitious sequestration targets to sequester an additional 4 to 7 million metric tons of carbon dioxide equivalent per year in Oregon's natural and working lands and waters by 2030 (that are additional to emissions reductions goals). Your report centers around climate-impacted communities, environmental justice, and tribal priorities.

We support the recommendation to form both a Natural and Working Lands Council to establish a baseline for carbon sequestration on natural and working lands and a blue-ribbon panel to develop a strategic plan for how to adopt climate-smart forest management strategies in Oregon. We agree with the need for new funding and new capacity within Oregon's state agencies and the need to work with federal agencies to ensure federal lands are part of Oregon's NWL goal.

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Sincerely,

Mr. Jules Moritz

8285 NW Mitchell Dr Corvallis, OR 97330-2824 mazda63@comcast.net

Greetings. Please include old growth carbon reserves on public lands. We should also require longer logging rotations, bigger riparian buffers and more green tree retention. Finally, emissions from logging should be included in DEQ's Greenhouse Gas Reporting Program. I am an owner of 160 acres of forest land.

Thank you.

Peg Reagan

97305 Signal Butte
Gold Beach. OR. 97444

971 226-2004

Sent from my iPhone

Dear Oregon Global Warming Commissioners,

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Sincerely,

Ms. Stacy Drake

2777 SW Wake Robin Pl Corvallis, OR 97333-1606 bird041167@yahoo.com

Dear Oregon Global Warming Commissioners,

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Sincerely,

Mr. Jeffrey White

42852 SW Dudney Ave Forest Grove, OR 97116-8523 rogue576@gmail.com

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Sincerely,

Ms. Andra Hollenbeck

195 Skidmore St Ashland, OR 97520-1731

andrah@jeffnet.org

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Sincerely,

Ms. Diane Fletcher

425 Terrace St Apt 49 Ashland, OR 97520-3003 dimary2208@gmail.com

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Sincerely,

Dr. Michelle Bienick

10241 Williams Hwy Grants Pass, OR 97527-8606 healing@inorbit.com

Dear Oregon Global Warming Commissioners,

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Sincerely,

Mr. Dana Bleckinger

PO Box 904 Yachats, OR 97498-0904

wooflevi@yahoo.com

Dear Oregon Global Warming Commissioners,

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I just don't understand, though, why I have to submit signatures and comments and petitions to my government to save the environment and its wildlife. That's beyond my comprehension.

We support the recommendation to form both a Natural and Working Lands Council to establish a baseline for carbon sequestration on natural and working lands and a blue-ribbon panel to develop a strategic plan for how to adopt climate-smart forest management strategies in Oregon. We agree with the need for new funding and new capacity within Oregon's state agencies and the need to work with federal agencies to ensure federal lands are part of Oregon's NWL goal.

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Sincerely,

Ms. denine heinemann

5531 N Commercial Ave Portland, OR 97217-2339 deninevh@yahoo.com

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Thank you for all that you do and for your efforts to ensure that we all can partake and enjoy a healthy and vibrant natural environment.

Sincerely,

Dr. Ourania Marcandonatou

592 Fair Oaks Ave Ashland, OR 97520-9476 nitsamar@yahoo.com

Dear Oregon Global Warming Commissioners,

The OGWC and partners have set ambitious sequestration targets to sequester an additional 4 to 7 million metric tons of carbon dioxide equivalent per year in Oregon's natural and working lands and waters by 2030. (These are in addition to emissions reductions goals.) Your report centers around climate-impacted communities, environmental justice, and tribal priorities.

We support the recommendation to form both a Natural and Working Lands Council to establish a baseline for carbon sequestration on natural and working lands and a blue-ribbon panel to develop a strategic plan for how to adopt climate-smart forest management strategies in Oregon. We agree with the need for new funding and new capacity within Oregon's state agencies and the need to work with federal agencies to ensure federal lands are part of Oregon's NWL goal.

But it is critical that we promote longer logging rotations on state and private forest lands and additional protections for mature and old growth forests as well as areas with high carbon storage potential and co-benefits for threatened and endangered species and improved water quality. Improvements must be made to Oregon's natural and working lands inventory data and the Forest Practices Act to continue to advance climate and carbon sequestration outcomes in Oregon's forests.

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We need the state legislature to fund new climate change policy positions within the Oregon Department of Forestry to meet growing capacity needs.

And with the increased fires that will come in the future, we will need to recognize that post-fire logging typically results in significant carbon emissions that would have otherwise remained sequestered in the landscape for decades. We need to focus reforestation on ecosystems that are not able to recover naturally and avoid habitat conversion as a result of afforestation. Reforestation and afforestation *can* be useful climate-smart practices, but there must be safeguards in place to ensure that habitat (such as grasslands or wetlands) is not lost as a result. We should promote greater tree biodiversity, which increases carbon sequestration and resilience to pests and pathogens.

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Sincerely,

Mr. Larry Francis

2626 Thompson Creek Rd Applegate, OR 97530-9632 larrydotfrancis@gmail.com

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Sincerely,

Ms Catherine McDargh

PO Box 1371 Jacksonville, OR 97530-1371 cmc.dargh@gmail.com

Sent via form submission from [Keep Oregon Cool](#)

Name: Susan Barnes

Email Address: barnessu1957@gmail.com

Subject: Comments on Draft Natural and Working Lands proposal

Message: As a Portland resident for over 30 years I have seen the impacts of climate change firsthand, with increasing drought, heat, smoke and a lengthening fire season. I have a longstanding concern and interest in helping out, but my efforts have been on the personal/lifestyle level. I am an educator, hiker and gardener with a deep connection to the natural world. As the development of my neighborhood has

accelerated rapidly, I have mourned the loss of trees, and the loss of shady green places. Thank you for recommending the expansion of urban forest canopy. While the density is a valued goal, it is apparent that my neighborhood is getting hotter, as the big, old trees are replaced by apartments and hardscape. I am working on including natives in my yard, and have seen a surge in bird/wildlife activity. I would like to see a focus on native trees, and tree diversity in the urban canopy to help support natural ecosystems. Diversity and natives will help the trees be more resilient in the face of pathogens and pests. Please also recommend support for community-based gardens and urban farms. Of course, this will further aid in reducing heat island effects, but as important is helping people to connect to the natural world, and through this climate concerned citizens are born. I am a reader of Michael Pollan, and it is apparent that our farmers and ranchers are essential allies in this effort. I would like to see programs that include incentives for farmers and ranchers for climate-smart agricultural practices via grants. Funding for research, technical assistance, demonstration and education must be provided to ensure the success of these practices. I would hope that we could ensure that agencies prioritize distribution of funding to historically disadvantaged producers. Thank you for considering my comments

Susan Barnes

Dear Oregon Global Warming Commissioners,

Thank you to the OGWC and partners for setting ambitious sequestration targets to sequester an additional 4 to 7 million metric tons of carbon dioxide equivalent per year in Oregon's natural and working lands and waters by 2030 (that are additional to emissions reductions goals). Your report centers around climate-impacted communities, environmental justice, and tribal priorities.

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The state should support ODF's Urban and Community Forestry program to increase urban tree cover and improve living conditions in low-income neighborhoods and stressing the importance of providing climate-smart NWL management education and training to support an equitable and just transition.

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Sincerely,
Ms. Karen Debraal
935 B St Springfield, OR 97477-4724
thestayfreekarebear@gmail.com

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Sincerely,
Dr. Daniel Robinhold
3344 Bardell Ave Eugene, OR 97401-5801
32robinhold@gmail.com

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Sincerely,
Mr. Lawrence Nagel
375 Ashland Loop Rd Ashland, OR 97520-2803 nagel@mind.net

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Ms. Susan Menanno

15840 SE Ten Eyck Rd Sandy, OR 97055-7575 spiritwhym@gmail.com

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Sincerely,
Ms. Juanita Rinas
975 Lewis Ave Eugene, OR 97402-4270
solacdncs@yahoo.com

Dear Oregon Global Warming Commissioners,

I am excited to provide input to this effort. Oregon can be a Sequestration leader. We have knowledge and the will.

Thank you to the OGWC and partners for setting ambitious sequestration targets to sequester an additional 4 to 7 million metric tons of carbon dioxide equivalent per year in Oregon's natural and working lands and waters by 2030 (that are additional to emissions reductions goals). Your report centers around climate-impacted communities, environmental justice, and tribal priorities.

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Sincerely,
Ms. Kathleen Roche
63255 Stonewood Dr Bend, OR 97701-8232
kathleensroche@gmail.com

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Sincerely,

Mrs. Jolene Foley

1205 Marcy Loop Rd Grants Pass, OR 97527-9637 riversprite2@hotmail.com

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Sincerely,

Mrs. Mary Ann Perry

1826 Fremont St Ashland, OR 97520-2537

sissyperry@yahoo.com

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Mr Don Jacobson

2545 SW Terwilliger Blvd Apt 314 Portland, OR 97201-6304 donjphoto@gmail.com

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Sincerely,
Ms. Phe Quillian
120 Faith Cir Talent, OR 97540-9630
waterlotus@peoplepc.com

Chair Macdonald and members of the Oregon Global Warming Commission (OGWC):

On behalf of the Agriculture/Water Policy Sub-table of the Oregon Climate Action Plan (OCAP) Coalition, we are providing additional Public Comment, attached, on the OGWC's [Proposed Changes to the Draft Natural and Working Lands Proposal](#) posted July 28, 2021.

Thank you so much for posting the proposed changes and for your consideration of these additional comments.

Megan Kemple and Grace Brahler

Co-Leads of Agriculture/water Policy Sub-table of Oregon Climate Action Plan (OCAP) Coalition



OCAP Ag_water
Public Comment on C

July 30, 2021

Chair Macdonald and members of the Oregon Global Warming Commission (OGWC):
On behalf of the Agriculture/Water Policy Sub-table of the Oregon Climate Action Plan (OCAP) Coalition, we are providing additional Public Comment on the OGWC's [Proposed Changes to the Draft Natural and Working Lands Proposal](#) posted July 28, 2021. The OCAP Coalition engages at every step of the Executive Order on Climate Action (EO 20-04) implementation process, working

to ensure the strongest possible outcomes for our climate, our communities and our economy. Regarding Page 16: Next Steps, Chair MacDonald has provided two alternatives:

Alternative A: "In order to continue to advance a natural and working lands sequestration goal and strategies, the Legislature should fund and create a Natural and Working Lands Council. The Council should be charged with **utilizing the best available data and science to** establishing a baseline for the outcome-based goal and the activity and community impact metrics within a year of its establishment. **The Council should also advise state agencies on implementation of the strategies included in this proposal and provide continued opportunities for stakeholder engagement as it develops guidance and metrics.**

Alternative B: "In order to continue to advance a natural and working lands sequestration goal and strategies, **Governor Brown should direct the agencies (ODA, ODF, OWEB, DLCD, DEQ) and the Environmental Justice Task Force to work with the OGWC to draft Activity-based and Community goals and metrics, establish the 2010 to 2019 baseline and complete a first draft of a Land Use, Land Use Change, and Forestry inventory.** The Legislature should fund and create a Natural and Working Lands Council. The Council **should report Legislature and** be charged with **utilizing the best available data and science to** establishing a baseline for the outcome-based goal and the activity and community impact metrics within a year **six months** of its establishment **and then sunset.**

We support Alternative A and have real concerns about Alternative B for the following reasons. We support the establishment of a diverse Natural and Working Lands Council that will set a baseline for the outcome based goal and the activity and community impact metrics and goals.

The Council should also advise state agencies on implementation of the strategies included in this proposal, as proposed in Alternative A. We also support the recommendation that the Council should provide continued opportunities for stakeholder engagement as it develops guidance and metrics.

In support of Alternative A:

Stakeholder engagement in implementation will be critical to ensure the carbon sequestration strategies that are implemented *actually work for farmers, ranchers and other landowners and land managers on the ground*. Coordinating state agencies should facilitate multi-stakeholder collaboration, both public and private, in development and implementation of these strategies. Stakeholder engagement must include: farmers and ranchers engaged in a variety of types of agricultural practices including organic, conventional, regenerative and sustainable practices; BIPOC producers and farmworkers; soil and climate scientists; and environmental and water advocates.

We have real concerns about Alternative B:

1) It fails to include stakeholder engagement, which is critical for the reasons described above.

2) We fear a very likely potential scenario where the OGWC and agencies draft goals and metrics,

establish a baseline and complete an inventory, but then these sit on a shelf with no implementation or impact on Oregon's climate goals. We also see a likely scenario where state agencies, OGWC, and the Council report to the Legislature that Oregon is not meeting the proposed Goals because the recommended strategies were not implemented or were not effective because the NWC Council and other stakeholders weren't engaged in implementation. Thank you so much for posting the proposed changes and for your consideration of these additional comments.

Megan Kemple and Grace Brahler,

Co-Leads of Ag/water Sub-table of Oregon Climate Action Plan (OCAP) Coalition

Dear Oregon Global Warming Commissioners,

Thank you to the OGWC and partners for setting ambitious sequestration targets to sequester an additional 4 to 7 million metric tons of carbon dioxide equivalent per year in Oregon's natural and working lands and waters by 2030 (that are additional to emissions reductions goals). Your report centers around climate-impacted communities, environmental justice, and tribal priorities.

We support the recommendation to form both a Natural and Working Lands Council to establish a baseline for carbon sequestration on natural and working lands and a blue-ribbon panel to develop a strategic plan for how to adopt climate-smart forest management strategies in Oregon. We agree with the need for new funding and new capacity within Oregon's state agencies and the need to work with federal agencies to ensure federal lands are part of Oregon's NWL goal.

It is critical that we promote longer logging rotations on state and private forest lands and additional protections for mature and old growth forests as well as areas with high carbon storage potential and co-benefits for threatened and endangered species and improved water quality. Improvements must be made to Oregon's natural and working lands inventory data and the Forest Practices Act to continue to advance climate and carbon sequestration outcomes in Oregon's forests.

The state should support ODF's Urban and Community Forestry program to increase urban tree cover and improve living conditions in low-income neighborhoods and stressing the importance of providing climate-smart NWL management education and training to support an equitable and just transition.

Please also recognize that better protections for mature and old growth forests and better forestry practices on private lands will also contribute to the Biden Administration's goal to protect 30 percent of lands and waters by 2030 and help counter the biodiversity crisis.

We need the state legislature to fund new climate change policy positions within the Oregon Department of Forestry to meet growing capacity needs.

With increased fires, we need to recognize that post-fire logging can result in significant carbon emissions that would have otherwise remained on the landscape for decades. We need to focus reforestation on ecosystems that are not able to recover naturally and avoid habitat conversion as a result of afforestation. Reforestation and afforestation can be useful climate-smart practices, but there must be safeguards in place to ensure that habitat (such as grasslands or wetlands) is not lost as a result. We should promote greater tree biodiversity, which increases carbon sequestration and resilience to pests and pathogens.

Please also recommend that the forestry sector emissions be included in Oregon Greenhouse Gas Sector-Based Inventory Data. The State Legislature should fund efforts to produce maps of remaining intact forests on public lands that identify forests with high carbon storage potential and biodiversity value. Ecosystems that are part of carbon-rich forests support a more diverse hierarchy of animal, bird, fish and plant communities as well as preserving natural resources (such as clean water).

Lastly, please also recommend continued opportunities for stakeholder engagement as the NWL Council develops metrics, state agencies begin to implement programs needed to meet the new carbon sequestration goal, and OGWC tracks progress toward meeting the goal. ODF (and related state agencies) should provide a plan and schedule for new rules, budget requests, and legislative concepts to implement each of OGWC's recommendations by November 2021.

Sincerely,
Mr. Vince Zauskey
PO Box 1361 Ashland, OR 97520-0046
vzauskey@gmail.com

Dear Oregon Global Warming Commissioners,

Thank you to the OGWC and partners for setting ambitious sequestration targets to sequester an additional 4 to 7 million metric tons of carbon dioxide equivalent per year in Oregon's natural and

working lands and waters by 2030 (that are additional to emissions reductions goals). Your report centers around climate-impacted communities, environmental justice, and tribal priorities.

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Please also recommend that the forestry sector emissions be included in Oregon Greenhouse Gas Sector-Based Inventory Data. The State Legislature should fund efforts to produce maps of remaining intact forests on public lands that identify forests with high carbon storage potential and biodiversity value.

Lastly, please also recommend continued opportunities for stakeholder engagement as the NWL Council develops metrics, state agencies begin to implement programs needed to meet the new carbon sequestration goal, and OGWC tracks progress toward meeting the goal. ODF (and related state agencies) should provide a plan and schedule for new rules, budget requests, and legislative concepts to implement each of OGWC's recommendations by November 2021.

Sincerely,

Ms. Katie Becker

7352 Adams Rd Talent, OR 97540-9720

katie@safeworld.com

Dear Oregon Global Warming Commissioners,

Thank you to the OGWC and partners for setting ambitious sequestration targets to sequester an additional 4 to 7 million metric tons of carbon dioxide equivalent per year in Oregon's natural and working lands and waters by 2030 (that are additional to emissions reductions goals). Your report centers around climate-impacted communities, environmental justice, and tribal priorities.

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Please also recommend that the forestry sector emissions be included in Oregon Greenhouse Gas Sector-Based Inventory Data. The State Legislature should fund efforts to produce maps of remaining intact forests on public lands that identify forests with high carbon storage potential and biodiversity value.

Lastly, please also recommend continued opportunities for stakeholder engagement as the NWL Council develops metrics, state agencies begin to implement programs needed to meet the new carbon sequestration goal, and OGWC tracks progress toward meeting the goal. ODF (and related state

agencies) should provide a plan and schedule for new rules, budget requests, and legislative concepts to implement each of OGWC's recommendations by November 2021.

Sincerely,

Ms. Mira Wiegmann

2750 SW 89th Ave Portland, OR 97225-3509 mira.wiegmann@cune.org

Chair Macdonald and members of the Oregon Global Warming Commission (OGWC):

On behalf of the Oregon Climate and Agriculture Network (OrCAN), we are providing additional Public Comment on the OGWC's Proposed Changes to the Draft Natural and Working Lands Proposal.

Thank you for your consideration of these comments.

Megan Kemple, Co-Director, Oregon Climate and Agriculture Network (OrCAN)

Director of Policy Advocacy, Development and Operations

541-342-1537 (home office)

megan@oregonclimateag.org

www.oregonclimateag.org



OrCAN's Comments
on Proposed changes t

July 30, 2021

Chair Macdonald and members of the Oregon Global Warming Commission (OGWC):

On behalf of the Oregon Climate and Agriculture Network (OrCAN), we are providing additional Public Comment on the OGWC's [Proposed Changes to the Draft Natural and Working Lands Proposal](#)

posted July 28, 2021. OrCAN's mission is to advance climate resilience on farms in Oregon through collaboration, education, and policy advocacy.

Regarding Page 16: Next Steps: Chair MacDonald has provided two alternatives:

Alternative A: *"In order to continue to advance a natural and working lands sequestration goal and strategies, the Legislature should fund and create a Natural and Working Lands Council. The Council should be charged with **utilizing the best available data and science to** establishing a baseline for the outcome-based goal and the activity and community impact metrics within a year*

*of its establishment. **The Council should also advise state agencies on implementation of the strategies included in this proposal and provide continued opportunities for stakeholder***

engagement as it develops guidance and metrics.

Alternative B: *“In order to continue to advance a natural and working lands sequestration goal and strategies, Governor Brown should direct the agencies (ODA, ODF, OWEB, DLCD, DEQ) and the Environmental Justice Task Force to work with the OGWC to draft Activity-based and Community goals and metrics, establish the 2010 to 2019 baseline and complete a first draft of a*

Land Use, Land Use Change, and Forestry inventory. The Legislature should fund and create a Natural and Working Lands Council. The Council should report Legislature and be charged with utilizing the best available data and science to establishing a baseline for the outcome-based goal

and the activity and community impact metrics within a year six months of its establishment and

then sunset.

We strongly support Alternative A and have real concerns about Alternative B.

We support a Natural and Working Lands Council that will establish a baseline for the outcome based goal and the activity and community impact metrics and goals, but the Council should also

advise state agencies on implementation of the strategies included in this proposal, as proposed in

Alternative A. We also support the recommendation that the Council should provide continued opportunities for stakeholder engagement as it develops guidance and metrics.

In support of Alternative A:

Stakeholder engagement in implementation of these strategies will be critical to ensure the strategies that are implemented *actually work for farmers and ranchers on the ground*. The state

must facilitate multi-stakeholder collaboration both public and private, in development and implementation of these strategies and ensure the inclusion of BIPOC farmers in decision-making.

As the Proposal has acknowledged, producers, especially BIPOC producers, are important stakeholders and need to be heard and included in this stakeholder engagement process.

Engaging diverse stakeholders in program development will strengthen these programs and ensure they work for all of Oregon’s farmers and ranchers.

We have real concerns about Alternative B:

1) It includes no stakeholder engagement, which is critical for the reasons we described above. And 2) we see a very likely potential scenario where the OGWC and agencies draft goals and metrics, establish a baseline and complete an inventory, but these sit on a shelf with no implementation. We also see a likely scenario where state agencies, OGWC, and the Council report to the legislature that we are not meeting our Goals, because the recommended strategies

were not implemented or were not effective because the NWC Council and other stakeholders weren’t engaged in implementation.

We have one other substantive suggested edit:

Chair MacDonald proposed alternative language for Page 6, Paragraph 2:

“The OGWC recommends that state agencies be required to report on Activity, Funding, and

Community Impact metrics and goals as part of the OGWC's Biennial Report to the Legislature with recommendations on how to address barriers and identify opportunities to improve strategies for increasing carbon sequestration in Oregon's natural and working lands." To be consistent with the proposed Goals and Metrics in the Proposal we think this should read: "The OGWC recommends that state agencies be required to report on *Outcome, Activity, Funding,* and Community Impact metrics and goals as part of the OGWC's Biennial Report to the Legislature with recommendations on how to address barriers and identify opportunities to improve strategies for increasing carbon sequestration in Oregon's natural and working lands." Funding is critical, but it was not included in the metrics or goals in the draft Proposal. Thank you so much for your consideration of these additional comments.
Megan Kemple, Co-Director, Oregon Climate and Agriculture Network (OrCAN)
Director of Policy Advocacy, Development and Operations
541-342-1537 (home office)
megan@oregonclimateag.org
www.oregonclimateag.org

Dear Oregon Global Warming Commissioners,

Thank you to the OGWC and partners for setting ambitious sequestration targets to sequester an additional 4 to 7 million metric tons of carbon dioxide equivalent per year in Oregon's natural and working lands and waters by 2030 (that are additional to emissions reductions goals). Your report centers around climate-impacted communities, environmental justice, and tribal priorities.

As a forest land owner and steward, I should wholeheartedly support being part of the carbon storage solution. And, while I realize that this land would qualify, I also realize that our management would provide this benefit regardless of being "counted." My CONCERN is that allowing existing carbon storage units to be used for carbon offsets just prolongs the amount of pollution that can be contributed to the atmosphere. I hope that is not the result.

We support the recommendation to form both a Natural and Working Lands Council to establish a baseline for carbon sequestration on natural and working lands and a blue-ribbon panel to develop a strategic plan for how to adopt climate-smart forest management strategies in Oregon. We agree with the need for new funding and new capacity within Oregon's state agencies and the need to work with federal agencies to ensure federal lands are part of Oregon's NWL goal.

It is critical that we promote longer logging rotations on state and private forest lands and additional protections for mature and old growth forests as well as areas with high carbon storage potential and co-benefits for threatened and endangered species and improved water quality. Improvements must be made to Oregon's natural and working lands inventory data and the Forest Practices Act to continue to advance climate and carbon sequestration outcomes in Oregon's forests.

The state should support ODF's Urban and Community Forestry program to increase urban tree cover and improve living conditions in low-income neighborhoods and stressing the importance of providing climate-smart NWL management education and training to support an equitable and just transition.

Please also recognize that better protections for mature and old growth forests and better forestry practices on private lands will also contribute to the Biden Administration's goal to protect 30 percent of lands and waters by 2030 and help counter the biodiversity crisis. We need the state legislature to fund new climate change policy positions within the Oregon Department of Forestry to meet growing capacity needs.

With increased fires, we need to recognize that post-fire logging can result in significant carbon emissions that would have otherwise remained on the landscape for decades. We need to focus reforestation on ecosystems that are not able to recover naturally and avoid habitat conversion as a result of afforestation. Reforestation and afforestation can be useful climate-smart practices, but there must be safeguards in place to ensure that habitat (such as grasslands or wetlands) is not lost as a result. We should promote greater tree biodiversity, which increases carbon sequestration and resilience to pests and pathogens.

Please also recommend that the forestry sector emissions be included in Oregon Greenhouse Gas Sector-Based Inventory Data. The State Legislature should fund efforts to produce maps of remaining intact forests on public lands that identify forests with high carbon storage potential and biodiversity value.

Lastly, please also recommend continued opportunities for stakeholder engagement as the NWL Council develops metrics, state agencies begin to implement programs needed to meet the new carbon sequestration goal, and OGWC tracks progress toward meeting the goal. ODF (and related state agencies) should provide a plan and schedule for new rules, budget requests, and legislative concepts to implement each of OGWC's recommendations by November 2021.

Sincerely,
Mr. Jack Duggan
PO Box 524 Jacksonville, OR 97530-0524
shanachie@hughes.net

Dear Oregon Global Warming Commissioners,

Thank you to the OGWC and partners for setting ambitious sequestration targets to sequester an additional 4 to 7 million metric tons of carbon dioxide equivalent per year in Oregon's natural and working lands and waters by 2030 (that are additional to emissions reductions goals). Your report centers around climate-impacted communities, environmental justice, and tribal priorities.

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Sincerely,

Ms. Barbara Kelberlau

3252 Bursell Rd Central Point, OR 97502-2935 bkdoghouse@gmail.com

Dear Oregon Global Warming Commissioners,

Thank you to the OGWC and partners for setting ambitious sequestration targets to sequester an additional 4 to 7 million metric tons of carbon dioxide equivalent per year in Oregon's natural and working lands and waters by 2030 (that are additional to emissions reductions goals). Your report centers around climate-impacted communities, environmental justice, and tribal priorities.

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Sincerely,

Mr. Harry Freiberg

610 Mardon Ct Brookings, OR 97415-9686

hap@alumni.stanford.edu

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Sincerely,
Ms. Gail Pearlman
6404 SE 23rd Ave Apt 324 Portland, OR 97202-5457 forgetwho@gmail.com

Hello,

Please accept the attached comments from The Nature Conservancy regarding the proposed Natural and Working Lands Goal. Thanks for the opportunity to share our thoughts!

Regards,

Amelia

Amelia Porterfield
Senior Policy Advisor
(503) 803-5863 (Mobile)
a.m.porterfield@tnc.org

The Nature Conservancy
Oregon Conservation Center
821 SE 14th Ave
Portland, Oregon 97214
nature.org



TNC Comments to
OGWC re NWL Recon

July 30, 2021

Recommendations for OGWC Natural and Working Lands Goal
Submitted by: Amelia Porterfield, Senior Policy Advisor

Chair Macdonald and Members of the Oregon Global Warming Commission:

Thank you for the opportunity to provide comments as the Oregon Global Warming Commission finalizes its Natural and Working Lands recommendation per Governor Brown's Executive Order 20-04. The Nature Conservancy (TNC) recognizes that climate change is one of the defining challenges of our time and we value the ongoing opportunity to provide feedback to the Commission during this process. From the onset of the Commission's work on developing the state's natural and working lands goal, TNC has advocated that the recommendations acknowledge and ambitiously address Oregon's responsibility to enact policies that mitigate our contributions and enable the necessary responses to climate change. While climate change is a global challenge, within Oregon the impacts are already driving shifts in ecological processes and hydrological cycles, negatively impacting biodiversity and influencing human well-being across our state, often most burdening the vulnerable members of our society. Natural and working lands have a key role to play in meeting our state's climate mitigation targets and improving community resilience.

As the Commission nears a final vote on the proposal, we are pleased to see a strong Natural and Working Lands Goal with recommendations informed by scientific data that set targets and plans that utilize natural and working lands' capability to sequester carbon. We strongly support the principles described in Section III of the report – Address the Urgency of Climate Action, Add to Existing Goals, Advance Equity, Create Accountability, and Ensure Continuous Improvement – and believe that following these five foundational principles in the implementation of this Goal will provide strong footing for the program.

The actions needed to reach the Executive Order's Greenhouse Gas emissions reduction goals will require appropriate investment and active implementation. We suggest that within this report, the Commission include a recommendation that directs the leadership of related agencies to develop plans and schedules for the actions that can be implemented immediately and within current authorities. Agencies should also identify actions that require new rules, budget requests, and legislative concepts necessary to implement each of the OGWC's recommendations and develop proactive plans to bring those actions to fruition.

We commend the Commission for your leadership and dedicated work over the past year that has resulted in the robust proposal you've brought forward. The Nature Conservancy looks forward to continued partnership with the Commission and related agencies to move these goals into practice and integrate natural and working lands into Oregon's climate response.

Additionally, The Nature Conservancy was asked to review existing assessments of the potential climate benefit from actions on Natural and Working Lands in Oregon and to provide recommendations for setting a climate mitigation goal for the Natural and Working Lands sector. We offer the following technical information and background which is more specifically directed at determining the goal. The principle of continuous improvement should be taken with consideration given to any new information or learning that may emerge in the future.

• *Natural and Working Lands are a critical component of the atmospheric carbon budget and activities that maintain or increase carbon storage and sequestration and provide important climate change mitigation benefits alongside other societal co-benefits.*

The Earth's carbon cycle includes the exchange of carbon and other greenhouse gases, expressed here in carbon dioxide equivalents (CO₂e), between the atmosphere and Earth's plants, animals, water bodies, soils, as well as the lithosphere (rocks, fossil fuels) and anthropogenic storage. Natural and Working Lands (NWL) comprise a major portion of the terrestrial carbon storage (e.g., wood, roots, soils) across a range of land types (e.g., forests, grasslands, and wetlands). NWL are formally recognized under the Land Use, Land-Use Change, and Forestry (LULUCF) sector of the National Greenhouse Gas Inventory (NGGI), which reports GHG emissions and removals resulting from national economic activities following guidelines from the U.N. Intergovernmental Panel on Climate Change¹. NWL are the only sector of the economy that provides a net removal of greenhouse gases from the atmosphere².

NWL play an important role in Oregon's climate mitigation goals by contributing to carbon sequestration and GHG reduction. Activities on natural and working lands (also known as "Natural Climate Solutions") represent a critical opportunity to increase the removal of greenhouse gases from the atmosphere (e.g. by managing forests and farmland and restoring natural ecosystems) as well as to further reduce emissions (e.g. by curbing conversion of natural ecosystems and deferring timber harvest). At the national scale, Natural Climate Solution activities on NWL have the potential to sequester and store an additional 18 percent of the total U.S. emissions³. Recent analyses of NCS

in Oregon highlighted the potential for NWL to provide a carbon benefit (i.e., relative increase in carbon storage compared to business-as-usual management) up to 9.5 MMT CO_{2e} per year by 2050 under an ambitious climate mitigation scenario⁴.

Mitigation benefits from Natural Climate Solutions in Oregon should be considered a complimentary effort and not in-lieu of real reductions in fossil derived GHG emissions. Real reductions in fossil derived GHG emissions are necessary to meet both climate mitigation and environmental justice goals. However, there are important opportunities for natural climate solutions that both provide climate mitigation and promote community resilience. Examples include restoration and reforestation of floodplains that provide increased sequestration and storage while attenuating flooding and reducing risk to communities.

• ***Setting an achievable goal for climate mitigation from Natural Climate Solutions within the NWL sector in Oregon***

Climate mitigation from Natural Climate Solutions refers to the management decisions on NWL to reduce greenhouse gases to the atmosphere either through avoided emissions or increased sequestration. **We recommend that the OGWC adopt a phased NWL goal to meet a targeted carbon benefit of 6.3 (± 0.7) MMT CO_{2e} per year by 2030 and 7.6 (± 0.8) MMT CO_{2e} per year by 2050** (Table 1). While this analysis does not include a full inventory of carbon stores on NWL, using rough unpublished estimates of the current sink, we estimate that these goals represent an approximate 12 – 15 % increase in the net carbon sink currently provided by NWL in Oregon. We express the climate mitigation goal in terms of the carbon benefit that could be achieved by 2030 and by 2050. The carbon benefit (MMT CO_{2e} per year) is the relative increase in carbon sequestration as compared to ‘Business-as-Usual’ management (*circa* 2010s) within the NWL sector. Table 1 shows the assumptions for BAU management, the NCS activities included in the target, and the relative contribution of each activity to the overall NWL sector target. Detailed methods on the calculation of carbon benefit from each activity can be found in the sources referenced here and in Table 1. We developed our recommendation by combining recent analysis of 12 NCS activities on natural and working lands in Oregon⁴ which modeled ‘Limited’, ‘Moderate’, and ‘Ambitious’ adoption of NCS from 2020 – 2050, with additional assessments of the carbon benefit from agricultural management practices⁶, tidal wetland restoration⁷, and urban reforestation⁸. Oregon’s forests, particularly in the West Cascades and Coast Range ecoregions, are some of the most naturally carbon-rich forests in the world but currently store carbon volumes much less than their ecological potential⁹. In the PNW, older forests store significantly more carbon than younger forests¹⁰. Much of the carbon removed from forests during harvest is lost to the atmosphere shortly after harvesting¹¹, therefore deferring timber harvest results in substantial carbon benefits both by keeping stored carbon in the forest and by allowing continued sequestration, which can be relatively low in the initial years following clearcut or regeneration harvest¹². Deferred timber harvest can be achieved through multiple mechanisms ranging from lengthening harvest cycles or changing harvest strategies to partial harvest and alternative management on forestlands^{13,14}. In addition to reducing the near-term carbon emissions, managing for longer rotations and more diverse forest structure would result in long-term increases to in-forest carbon stocks¹⁴⁻²⁰. Timber harvest deferral, as modeled in Graves et al. 2020 under the ‘Moderate’ scenario could account for over 80% of the target mitigation for 2030 and 2050 (Table 1). Forest practices which result in deferring 27% of timber harvest annually from forests at historically low wildfire risk provide a carbon benefit of 3.4 (± 0.33) MMT CO_{2e} per year. Restoration and reforestation of floodplains can provide up to 1.86

(±0.1) MMT CO₂e per year while also providing floodwater attenuation, stabilizing water supplies, and reducing risk to communities. Together, these two activities account for 77% of the recommended NWL target for 2030 and 70% of the recommended NWL target for 2050.

We use the estimated carbon benefit from timber harvest deferral from the Moderate scenario in Graves et al.⁴. However, regardless of scenario, we found that deferring timber harvest, i.e., delaying a portion of annual timber harvest each year, has the single largest mitigation potential for any NCS activity in the state of Oregon (2.3 – 5.2 MMT CO₂e yr⁻¹)⁴. The scenarios did not incorporate economic impacts or landowner willingness and the realized scale of carbon benefit from timber harvest deferral will depend on actual adoption of longer rotations and alternative silvicultural approaches in western Oregon forests. We recognize that efforts to implement timber harvest deferral proposals must consider the impacts on related industries and communities.

Agricultural management, by increasing the adoption of no-till and cover crops on applicable cropland acres and practicing nutrient management, can provide an additional 8% and 11% of the climate mitigation needed to reach the NWL targets for 2030 and 2050, respectively. The remaining activities, from tidal wetland restoration to sagebrush-steppe conservation, range across the state of Oregon's diverse ecosystems and provide increased sequestration and carbon storage while also contributing to important co-benefits (e.g. supporting rangeland and fishery productivity, providing habitat for biodiversity including endangered and imperiled species).

• ***Impacts of wildfire on Natural and Working Lands – Forest Sector Goals.***

Oregon's forests store on the order of 3 billion metric tons of carbon across all ownerships in various pools that include standing live trees, standing and fallen dead trees, forest floor vegetation, and soils²¹. Oregon's forests are a net sink of carbon which sequester, across all ownerships and ecoregions, approximately 30.9 ± 7.4 MMT CO₂e per year²¹. Fires in Oregon's forests, which pose real concerns for human health, community, and forest resilience^{22,23}, are on average a relatively small source of carbon emissions estimated to be -3.8 ± 1.7 MMT CO₂e per year²¹. However, in extreme fire years such as 2020, wildfire emissions can be substantial and depend upon fire severity and the pre-fire condition of the forest²⁴. Wildfire activity is increasing in Oregon in association with climate change coupled with other natural and human disturbances²⁵⁻²⁷ and a legacy of past forest management activities that resulted in uncharacteristically high densities and fuel conditions in many forests²⁸. In Oregon, important variation across ecoregions can help prioritize strategies for climate adaptation in dry fire-prone forests and climate mitigation in highly productive wet forests that are less fire-prone²⁹.

In dry fire-prone forests, forest management practices (i.e., treatments) to improve forest health using ecologically designed mechanical forest thinning and managed fire are widely accepted as important for climate adaptation. These forest health treatment result in immediate and short-term emissions of carbon into the atmosphere²⁹. The long-term effect of these treatments on forest carbon stocks and flux is uncertain. In a recent review of current literature, colleagues at TNC found that most studies on the carbon effects of forest treatments on carbon in the western U.S. were conducted at relatively small spatial (<50,000 acres) and temporal (<50 years) scales and thus, do not evaluate the climate mitigation potential of restoration in the context of changing climate and wildfire regimes³⁰. Still, based on the current science, forest restoration treatments over large scales is likely to stabilize carbon over time by minimizing losses to intensifying wildfires in fire-prone forests with relatively low potentials for growth and regeneration³¹⁻³⁶. The Klamath Mountain, East Cascades, and Blue Mountain ecoregions represent areas of the State where carbon stabilization

strategies and forest treatments aimed at climate adaptation make more sense than climate mitigation strategies.

In Oregon, two ecoregions, the Western Cascades and the Oregon Coast Range, account for 58% of the annual net CO₂e in live trees as well as accounting for 52% of Oregon's forest carbon stocks²¹. The moist coniferous forests found in these ecoregions are generally characterized by an infrequent, stand-replacing (i.e., high-severity) fire regime and, although fire frequencies and severities are expected to increase across the west due to climate change, the relative fire frequency is likely to remain low in these moist ecosystems³⁷. In these wetter, highly productive, and less fire-prone ecoregions, forest management practices such as lengthened rotations, reforestation, afforestation, and increased stream protections present significant opportunities to rapidly sequester and store substantially more carbon^{3,38}. Along with the Willamette Valley, these ecoregions comprise the land base considered appropriate for natural climate solutions related to timber harvest deferral described above.

• ***Gaps and Future Research Needs.***

Our analysis of the carbon benefit associated with changing management within the NWL sector does not provide estimates of how much carbon is moving in and out of the NWL carbon pools. Oregon's Greenhouse Gas Inventory (OGGI) will provide an initial snapshot of the carbon flux associated with the NWL. However, climate change is expected to further stress ecosystems across Oregon, and many NWL already face threats due to a combination of natural and anthropogenic disturbances which makes the future of the land sink uncertain. Land use and management of NWL can affect the potential for NWL to store and uptake carbon, while climate change can affect ecosystem carbon balance by changing the rate of carbon uptake by vegetation, the rate of decay and decomposition of organic matter and soils, and by increasing the frequency and magnitude of extreme events such as wildfires. Current inventory methods are not sufficient to draw conclusions about the potential of NWL subsectors to store and sequester carbon these changing conditions. Thus, comprehensive process-based models which incorporate anthropogenic land-use trends, natural disturbances, and climate change projections are needed to better understand how NWL in Oregon may serve as a carbon sink into the future.

A relevant example can be found in a recent research partnership between TNC in California and USGS wherein they used the Land Use and Carbon Scenario Simulator (LUCAS) model to improve upon the coarse estimates provided by the EPA State Inventory Tool (SIT)³⁹. The LUCAS model is designed to track changes in land use, land cover, land management and disturbance and report their impacts on ecosystem carbon storage and flux⁴⁰. The research partnership in California showed that carbon storage in terrestrial ecosystems was projected to decline in nearly all future scenarios and highlighted that land management activities, particularly by limiting land use changes, could consistently reduce the loss of net ecosystem carbon regardless of future climate scenario⁴¹. A similar effort could be undertaken for Oregon. It would allow land use changes across Oregon to be combined with climate change projections and, by spanning NWL subsectors, would facilitate a better understanding of the likely effect of NWL management activities over time on Oregon's GHG goals.

• ***On-going research on the use of incentives to promote NCS in the NWL – Forest sector.***

Realizing the potential increased carbon benefit on NWL depends on increased adoption of management activities that increase sequestration, protect existing carbon stores, and reduce emissions within the NWL sector. As discussed above, significant increases in carbon storage and

sequestration are possible in the NWL-Forest sector by increasing time between timber harvests and/or encouraging structural diversity and older aged forests. However, increasing adoption of silvicultural strategies to increase carbon storage in Oregon's forests will likely require the development of incentive and capacity-building programs for forestland owners.

During the last year, we surveyed non-industrial private forest owners, who comprise 18% of forestland ownership in western Oregon, about their forest management goals, attitudes, and preferences as well as characterize their willingness to participate in hypothetical forest carbon incentive programs (Graves et al., *unpublished*). The hypothetical incentive programs included key elements from other programs such as the USDA conservation reserve program and American Forest Foundation and TNCs family forest carbon program and were described to landowners in terms of an initial incentive payment or sign-on bonus, an annual payment for program implementation, cost-share for creating and implementing a forest management plan, and contract length. Each program also included one of three forest management changes ranging from most strict ("No timber harvest for the duration of the contract. Any deadwood removal must be reported.") to more flexible ("Thinning and partial harvest permitted, for personal or commercial use. Cumulative harvest can not exceed the estimated 5-year growth volume for your forest, as specified by a management plan. All harvest and deadwood removals must be reported").

Our initial analysis of the survey data [Graves et al., unpublished] shows that up to 27% of nonindustrial private landowners in the Coast Range, Willamette Valley, and West Cascades would consider enrolling in forest carbon incentive programs that limited cumulative harvest to less than 5-years of growth volume over 10 to 20 years, offered \$50/acre annual payments, and provided a 50-75% cost share for management plan development. Respondents were generally opposed to incentive programs that places strict limits on timber harvest, but were supportive of overall program goals and many were eager for help to sustainably manage their lands – pointing to a need for capacity support for these landowners. While further research is warranted, these initial results support the development of incentive-based and capacity building programs for forest management to meet NWL carbon targets.

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NWL Sector	Action	Business-as-Usual (ca. 2019s)	2030 Target CO ₂ e / yr (MMT)	2030 Target Activity Rate	2050 Target CO ₂ e / yr (MMT)	2050 Target Activity Rate	Source
Rural Forests	Timber harvest deferral in portions of western Oregon with historically lower wildfire risk	3.4 BBF harvested/yr	-3.36	27% of annual harvests deferred	-3.45	27% of annual harvests deferred	Graves et al. 2020 (moderate scenario)
	Replanting after wildfire on federal forests	9-12% of moderate to high severity burned areas on federal forests replanted	-0.12	Increase by 100%	-0.24	Increase by 150%	Graves et al. 2020 (moderate scenario)
	Riparian reforestation	5920 ac / yr	-1.47	Increase by 650%	-1.86	Increase by 650%	Graves et al. 2020 (ambitious scenario)
	Avoided conversion of forests to rural / urban development	5135 ac / yr	-0.48	Reduce by 100%	-0.52	Reduce by 100%	Graves et al. 2020 (ambitious scenario)
Urban Trees	Afforestation/reforestation	unknown	-0.074	4000 acres/year (32,000 by 2030)	-0.22	4000 acres/year (112,000 by 2050)	Cook-Pattin et al. 2020
Agriculture	Use of Cover Crops	100008 ac (2% cropland)	-0.034	10% of cropland	-0.12	50% of available cropland	Moore-Kucera et al. 2019
	No-Till Agriculture	990061 ac (10% cropland)	-0.38	20% of cropland	-0.65	84% of available cropland	Moore-Kucera et al. 2019
	Nutrient management	191,000 Mg N applied across all croplands	-0.083	Decrease by 15%	-0.083	Decrease by 15%	Moore-Kucera et al. 2019
Sagebrush-steppe	Restoration from invasive annual grass	13813 ac / yr	-0.2	Increase by 200%	-0.35	Increase by 200%	Graves et al. 2020 (ambitious scenario)
	Conversion to invasive annual grass	9084 ac / yr		Reduce by 100%		Reduce by 100%	Graves et al. 2020 (ambitious scenario)
Grasslands	Avoided conversion of grassland to cropland	2298 ac / yr	-0.06	Reduce by 100%	-0.06	Reduce by 100%	Graves et al. 2020 (ambitious scenario)
Blue Carbon	Forested tidal wetland restoration	10 - 47 ac/yr	-0.02	2471 acres restored by 2030	-0.02		Boers et al. 2021
Totals			-6.28		-7.57		

Dear Oregon Global Warming Commissioners,

Thank you to the OGWC and partners for setting ambitious sequestration targets to sequester an additional 4 to 7 million metric tons of carbon dioxide equivalent per year in Oregon's natural and working lands and waters by 2030 (that are additional to emissions reductions goals). Your report centers around climate-impacted communities, environmental justice, and tribal priorities.

We support the recommendation to form both a Natural and Working Lands Council to establish a baseline for carbon sequestration on natural and working lands and a blue-ribbon panel to develop a strategic plan for how to adopt climate-smart forest management strategies in Oregon. We agree with the need for new funding and new capacity within Oregon's state agencies and the need to work with federal agencies to ensure federal lands are part of Oregon's NWL goal.

It is critical that we promote longer logging rotations on state and private forest lands and additional protections for mature and old growth forests as well as areas with high carbon storage potential and co-benefits for threatened and endangered species and improved water quality. Improvements must be

made to Oregon's natural and working lands inventory data and the Forest Practices Act to continue to advance climate and carbon sequestration outcomes in Oregon's forests.

The state should support ODF's Urban and Community Forestry program to increase urban tree cover and improve living conditions in low-income neighborhoods and stressing the importance of providing climate-smart NWL management education and training to support an equitable and just transition.

Please also recognize that better protections for mature and old growth forests and better forestry practices on private lands will also contribute to the Biden Administration's goal to protect 30 percent of lands and waters by 2030 and help counter the biodiversity crisis.

We need the state legislature to fund new climate change policy positions within the Oregon Department of Forestry to meet growing capacity needs.

With increased fires, we need to recognize that post-fire logging can result in significant carbon emissions that would have otherwise remained on the landscape for decades. We need to focus reforestation on ecosystems that are not able to recover naturally and avoid habitat conversion as a result of afforestation. Reforestation and afforestation can be useful climate-smart practices, but there must be safeguards in place to ensure that habitat (such as grasslands or wetlands) is not lost as a result. We should promote greater tree biodiversity, which increases carbon sequestration and resilience to pests and pathogens.

Please also recommend that the forestry sector emissions be included in Oregon Greenhouse Gas Sector-Based Inventory Data. The State Legislature should fund efforts to produce maps of remaining intact forests on public lands that identify forests with high carbon storage potential and biodiversity value.

Lastly, please also recommend continued opportunities for stakeholder engagement as the NWL Council develops metrics, state agencies begin to implement programs needed to meet the new carbon sequestration goal, and OGWC tracks progress toward meeting the goal. ODF (and related state agencies) should provide a plan and schedule for new rules, budget requests, and legislative concepts to implement each of OGWC's recommendations by November 2021.

Sincerely,

Ms. Nissa Rudh

2360 NW Rolling Green Dr Corvallis, OR 97330-3764 nerudh@gmail.com

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Sincerely,

Mr. John Nettleton

4311 SE 37th Ave Portland, OR 97202-3276 jpn5710@yahoo.com

Dear Oregon Global Warming Commissioners,

AS WE SEE THE INCREASING EFFECTS AND INFLUENCES OF CLIMATE CHANGE ON NATURAL AND HUMAN COMMUNITIES, WE MUST INCREASE PROTECTIONS FOR OUR FORESTS AND THE BENEFITS THEY

PROVIDE. AS YOU KNOW, THIS IS UNFORTUNATELY A NEW ERA AND OUR ACTIONS MUST REFLECT THE URGENCY AND IMPORTANCE OF THE SITUATION.

Thank you to the OGWC and partners for setting ambitious sequestration targets to sequester an additional 4 to 7 million metric tons of carbon dioxide equivalent per year in Oregon's natural and working lands and waters by 2030 (that are additional to emissions reductions goals). Your report centers around climate-impacted communities, environmental justice, and tribal priorities.

We support the recommendation to form both a Natural and Working Lands Council to establish a baseline for carbon sequestration on natural and working lands and a blue-ribbon panel to develop a strategic plan for how to adopt climate-smart forest management strategies in Oregon. We agree with the need for new funding and new capacity within Oregon's state agencies and the need to work with federal agencies to ensure federal lands are part of Oregon's NWL goal.

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Sincerely,
Ms. Elizabeth Eggers
221 Granite St Rear Ashland, OR 97520-2791 ejo.eggers@gmail.com

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Sincerely,
Mr. Wally Sykes
PO Box 733 Joseph, OR 97846-0733
wally_sykes2000@yahoo.com

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Mr. Michael Nacrelli

15482 SE Bradford Rd Clackamas, OR 97015-5489 mnacrelli@frontier.com

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Mrs. C.A. Incze
310 NE Darlene St Winston, OR 97496-8566 kk7at@toast.net

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Dr. Joan Kalvelage

810 Faith Ave Ashland, OR 97520-2515

danjoan@ccountry.net

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Mr. Dale Marshall

3124 Upper River Rd # 1027 Gold Hill, OR 97525-9713 nopanic66@gmail.com

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Ms. Susan Delles

2801 Sykes Creek Rd Rogue River, OR 97537-9771 sdelles@jeffnet.org

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Mr. Tyler Stone

16761 Williams Hwy Williams, OR 97544-9633 tyler.stone707@gmail.com

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Mr. Jeff Scroggin

6255 NE 16th Ave Portland, OR 97211-4811 adiom33@gmail.com

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Mr. Steve Sheehy

4727 Alpine Dr Klamath Falls, OR 97603-8303 sheehy.s@charter.net

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Ms Liza Baer

109 Clear Creek Dr Ste 301 Ashland, OR 97520-1838 lizabaer@yahoo.com

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Ms. Emily Bowes

305 S 3rd St Jacksonville, OR 97530-9231 emily@rogueriverkeeper.org

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Lastly, please also recommend continued opportunities for stakeholder engagement as the NWL Council develops metrics, state agencies begin to implement programs needed to meet the new carbon sequestration goal, and OGWC tracks progress toward meeting the goal. ODF (and related state agencies) should provide a plan and schedule for new rules, budget requests, and legislative concepts to implement each of OGWC's recommendations by November 2021.

Sincerely,
Mr Max Kachinsky
203 Kincaid Rd Williams, OR 97544-9773
00benjamink@gmail.com

Dear Oregon Global Warming Commissioners,

Thank you to the OGWC and partners for setting ambitious sequestration targets to sequester an additional 4 to 7 million metric tons of carbon dioxide equivalent per year in Oregon's natural and working lands and waters by 2030 (that are additional to emissions reductions goals). Your report centers around climate-impacted communities, environmental justice, and tribal priorities.

We support the recommendation to form both a Natural and Working Lands Council to establish a baseline for carbon sequestration on natural and working lands and a blue-ribbon panel to develop a strategic plan for how to adopt climate-smart forest management strategies in Oregon. We agree with the need for new funding and new capacity within Oregon's state agencies and the need to work with federal agencies to ensure federal lands are part of Oregon's NWL goal.

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The state should support ODF's Urban and Community Forestry program to increase urban tree cover and improve living conditions in low-income neighborhoods and stressing the importance of providing climate-smart NWL management education and training to support an equitable and just transition.

Please also recognize that better protections for mature and old growth forests and better forestry practices on private lands will also contribute to the Biden Administration's goal to protect 30 percent of lands and waters by 2030 and help counter the biodiversity crisis.

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Sincerely,
Ms. Marilyn Mooshie
970 Lake Shore Dr Selma, OR 97538-9528
marilynmooshie@gmail.com

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Sincerely,

Ms Nicole Kraft

3106 S River Rd Grants Pass, OR 97527-6135 nicoleannkraft@gmail.com

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Sincerely,
Mr. Randy Harrison
4051 Wagner St Eugene, OR 97402-8725
ran6711@comcast.net

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Sincerely,
Mr. Walt Mintkeski
6815 SE 31st Ave Portland, OR 97202-8633 mintkeski@juno.com

Dear Oregon Global Warming Commissioners,

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Sincerely,
Mr Nathan Wetzel
13440 SW Ash Ave Tigard, OR 97223-6022
wetzelnathan@yahoo.com

Good morning,

Please find attached the comment letter in response to the OGWC's Draft Natural and Working Lands Proposal posted on July 26, 2021 from the Associated Oregon Loggers.

I will be joining the meeting on August 4th and will be able to answer any questions between now and then, or at the meeting via public comment.

I hope you have a wonderful Friday and a great weekend. See you all next week!

Kindly,
Amanda

Amanda Astor, CCF (she/her/hers)

Forest Policy Manager

Associated Oregon Loggers

aastor@oregonloggers.org

Mobile: 503.983.4017 | 2015 Madrona Ave SE |
Office: 503.364.1330 | Salem, OR 97302 |





Associated Oregon Loggers, Inc.

PO Box 12339 □ Salem, Oregon 97309-0339 □ (503) 364-1330 □ Fax (503) 364-0836

“Th voice of forest contracting small businesses and working families since 1969” Page 1 of 5

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Date: July 30, 2021

To:	Chair Cathy Macdonald
Oregon Global Warming Commission	

From: Amanda Astor
Forest Policy Manager
Associated Oregon Loggers

Response: Draft Natural and Working Lands Proposal

Introduction

Thank you for the opportunity to discuss the need to ensure a robust and vibrant contracting community is maintained if not enhanced while increasing the ability of the state to mitigate climate change through natural solutions.

Associated Oregon Loggers (AOL) is the statewide trade association who has been the voice of small family forest businesses for over 50 years. AOL’s members work daily to steward Oregon’s forests. These honorable small businesses led by forestry professionals employ more than 22,000 Oregonians who provide sustainable forest management services for Oregon’s public and private forestlands, while producing economic stability for their communities and living wage jobs for their employees and families.

Forest contractors are being tapped by the complete and coordinated system to help stop the blazes across the state. State Departments like Oregon Department of Forestry (ODF) and Oregon State Fire Marshall as well as their federal partners, rely heavily on AOL’s members during fire season, but the only way for these fire assets to remain available during fire season is to ensure they can work all year long. There is nothing more disheartening than being called a hero during fire season and then slandered in the media or overregulated outside of fire emergencies.

The partnerships and complex supply chains that allow wildlife habitat to be created and protected, recreational experiences to be maintained and carbon storing wood products to continually be supplied to the market does not happen by chance and AOL’s members are proud to be a part of the team.

Please ensure these hardworking Oregonians can continue to do this hard work by recognizing their contributions in these recommendations to the Governor.

What We Know

According to the Oregon Forest Resources Institute’s [Oregon Forest Facts 2021-22 Edition](#), “the amount of wood harvested each year is about 77 percent of the annual timber growth” and “11 percent of that growth is offset by trees that die from causes such as fire, insects and disease.” They also state, “the total carbon sequestered in Oregon by the state’s forests and wood products made here is estimated to be 49.5 million metric tons of carbon dioxide equivalent each year, according to the Oregon Forest Resources Institute report [Carbon in Oregon’s Managed Forests](#). Oregon’s forests also annually sequester about 30.9 million metric tons of carbon dioxide equivalent. This forest carbon sequestration rate is the highest of the western states, and one of the highest in the country.”

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But, to add to our current knowledge of forest carbon in Oregon, the Oregon Department of Forestry has commissioned multiple carbon studies. They started with an overview of Forest Ecosystem Carbon and PNW Forest Carbon Initiative by developing the [Oregon Forest Ecosystem Carbon Inventory: 2001-2016](#). Then they worked on a Harvested Wood Product and Sawmill Energy Report which recently was published: [Oregon Harvested Wood Products Carbon Inventory 1906 – 2018](#).

Timeline and Knowledge Gaps

ODF is now in the review and final development stage of their [Climate Change and Carbon Plan](#). The Draft Natural and Working Lands Proposal recognizes the development of this plan and that fact that ODF is undergoing two additional "studies to evaluate the net carbon sequestration consequences of different management scenarios, in terms of the amount of carbon that can be stored and potentially lost. One is being led by American Forests in partnership with the US Forest Service, the Canadian Forest Service, Northern Institute of Applied Climate Science, and Michigan State University. The other is being led by USFS Pacific Northwest Research Station."

Both the Draft Natural and Working Lands Proposal and the ODF Climate Change and Carbon Plan discuss "climate-informed" or "climate smart" forestry implying that current silvicultural practices are not either of those two things. However, these terms are not defined nor are there any academic resources identified to verify the claim that current management practices are not climate smart forestry or that lengthening harvest rotations on state and private forest lands would result in optimized carbon benefits.

On the contrary, research from the Consortium for Research on Renewable Industrial Materials suggests [sustainably managing and harvesting forests substantially improves carbon mitigation outcomes](#). The best uses of wood provide a "carbon negative technology" with the ability to displace fossil emissions. In short, simply planting more trees or increasing rotation ages, then walking away is not enough. We must also harvest and use the wood to optimize the climate change benefits.

As demand for global structural wood products increases, policy makers should empower Oregon's forest sector in its critical roll to help reduce carbon from our atmosphere by promoting storage in the harvested wood products pool and basing suggestions on National Standards, the large body of research which points to active forest management on all lands as a means to increase carbon sequestration and forest health and waiting to make firm decisions until the two additional ODF studies are completed. The OGWC should also be promoting tools such as the Northern Institute of Applied Climate Science's (NIACS) [Forest Carbon Menu of Adaptation and Mitigation Strategies & Approaches](#).

Suggested Criteria

Rather than overregulating the very industry that has the ability to enhance natural solutions to climate change, the state should be a collaborating partner. Any money put up by the state to complete carbon sequestration work on natural and working lands should be met with at least a handful of specific criteria.

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1. Projects should be required to result in a break even or net profit to the state in order to do additional restoration activity such that the state is acting with fiduciary responsibility and maximizing net positive outcomes to the public.

2. A certain proportion of the funding should be carved out to fund Good Neighbor Authority where forest restoration can result in a meaningful impact due to federal ownership making up over half of all the natural and working lands in Oregon.
3. The recommendations of the OGWC must not act against the work outlined by the [Governor's Council on Wildfire Response](#), the [Oregon Memorandum of Understanding on Shared Stewardship](#) nor [Senate Bill 762](#).

Learning From California

As noted on page 2 of the Draft Natural and Working Lands Proposal, California created a plan for reducing land sector emissions in 2019. But in 2015, California actually created [three grant programs](#) managed by the California Department of Forestry and Fire Protection (CAL Fire) to spend money received from its cap-and-trade program. The cap-and-trade program brings in about \$500 million to the state of which \$200 million is turned around and spent on these three grant programs. They increase proactive forest management; help create co-benefits through urban forestry and fund fire adaptation work around communities to reduce carbon emitting wildfire risks. All of these programs increase timber harvests, rural jobs and robust marketplaces.

4. California Climate Investments Forest Health Grant Program
5. California Climate Investments Urban & Community Forestry Grant Program
6. California Climate Investments Fire Prevention Grant Program

Counties and other forest managing partner organizations compete for these funds annually. Each applicant must apply to a specific grant program which each have their own specific selection criteria. Because the grants are funded by the cap-and-trade program Cal Fire's selection criteria includes carbon sequestration/greenhouse gas reduction language.

In addition to these proactive approaches, Governor Newsom also proposed \$1 billion in surplus state funds to help increase these efforts with nearly \$50 million being directed to increased GNA staffing and capacity in the state through CAL Fire. This comes after the state signed its own [Memorandum of Understanding](#) (MOU) with the US Forest Service related to Shared Stewardship on August 12, 2020. The MOU outlines a commitment for 1 million acres to be treated through active forest management each year. This acreage is to be split with 500,000 acres on private lands and 500,000 acres on federal lands each year resulting in the ability for the state to manage all productive timberlands in California on a 15–20 year cycle.

Regrettably, the Department of Environmental Quality chose not to work collaboratively with the Oregon Watershed Enhancement Board, OGWC, ODF nor the Board of Forestry and thus have chosen against including biogenic carbon sequestration projects as an alternative compliance mechanism for the Oregon Climate Protection Program. They have also chosen against including forest sequestration projects within the Community Climate Investment alternative compliance mechanism. This could have created a steady funding source in Oregon similar to California, but now Oregon will have to find a new way to fund these projects. In the end, it will likely be the whole of Oregon paying the price. It will be

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critical to find equitable solutions to fund this work that do not hurt underserved communities such as rural Oregonians, BIPOC communities, the unhoused and transient population, families near or under the poverty line, etc.

Oregon should however, be making proactive steps forward to achieve the scale of restoration needed across the landscape to reduce wildfire emissions, increase forest health, enhance the sequestration potential on natural and working lands and to increase the storage of carbon in our harvested wood

products pool.

Permanence Issues

Now, fire is threatening the permanence of this carbon offset market. The Bootleg Fire is inching closer to Northern California's CAFR5233 forest which has accrued 954,179 offset credits to date since 2015. As AOL has said before, increasing rotation ages in our forests is NOT climate smart forestry. This simply locks up more carbon in the forested environment where it is at a higher risk of emission through natural disasters like wildfire, drought and insect mortality.

A study published in Science titled "Climate-driven risks to the climate mitigation potential of forests" says climate change threatens the permanence of storing carbon in our forested ecosystems. As the atmosphere continues to collect carbon, fertilizing plants and inducing growth, dry and extreme weather patterns, forest pests and pathogens also run rampant. This blend of conditions creates the perfect opportunity for catastrophic fires and severe mortality events in our forests. The scientists note that, "Crucially, many of these permanence risks are projected to increase in the 21st century because of climate change, and thus estimates based on historical data will underestimate the true risks that forests face. Forest climate policy needs to fully account for the permanence risks because they could fundamentally undermine the effectiveness of forest-based climate solutions."

We can enhance the stability of our carbon stores by continually adding carbon to the harvested wood products pool and creating legislation that mandates the use of more wood construction, mass timber buildings and carbon dense cities.

[Engineered wood has been around for half of a century but has been gaining a lot of attention lately.](#) Products such as cross laminated timber (CLT), I-joists, and glulam beams [help reduce the need for carbon](#)

[intensive non-renewable building materials](#) like steel and concrete. [New research from Yale](#) published in *Natural Sustainability* titled "Buildings as a global carbon sink", shows when these wood innovations are used through construction in cities, our urban environments can act as carbon sinks that are long-lived, less risky and farm more permanent than the forested environment.

Milwaukee, WI has acknowledged this opportunity and is preparing to construct a [25-story mass timber building for residential apartments](#) sometime in the summer of 2022. Oregon is a leader in this technology

as well, especially because Oregon is—and will continue to lead the nation in structural wood growth, production and technology innovation. We have [the most engineered wood plants](#) in all of the United States. We grow, mill and engineer the most structural wood in Oregon—doing this better than all other states. We should also be maximizing its use and forest production here in Oregon for its dual advantages

of carbon capture AND structural storage.

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Soil Organic Carbon Pool

New research which is in the review process lead by Luke Nave, a Research Scientist with NIACS and the Coordinator of the International Soil Carbon Network, also notes that losses in carbon from the soil organic carbon (SOC) pool are driven by wildfire not harvesting. In an interview he said, "Our work for the PNW (including OR, WA, and portions of adjacent states) shows quite clearly that there are major SOC losses with fires (most of all wildfires) but rarely or not at all with harvesting. Our analysis is based upon real experimental and observational data, and follows a set of approaches we've used successfully in other ecoregions over the last few years."

By only focusing on forests to store carbon and completely ignoring leakage, substitution factors, wildfire emissions and storage potential in the harvested wood products pool, the OGWC is missing a great opportunity to innovate and lead the way in meaningful climate smart forestry and collaboration with other state efforts.

Blue-Ribbon Panel and Natural and Working Lands Council

The OGWC suggests in its Draft Natural and Working Lands Proposal that a blue-ribbon panel be created to develop methods to incentivize “climate smart forestry” and a Natural and Working Lands Council to establish a baseline for the outcome-based goals and strategies to advance natural and working lands sequestration potential. AOL believes this work can be completed by the new ODF Forest Restoration and Resiliency Projects Committee or future committee created by the department as a part of the 20 Year Strategic Plan Development. Perhaps these efforts can all be combined into one partnership/collaborative group.

Graciously,

Amanda Astor (she/her/hers)

aastor@oregonloggers.org

Forest Policy Manager

Associated Oregon Loggers

Dear Oregon Global Warming Commissioners,

Thank you to the OGWC and partners for setting ambitious sequestration targets to sequester an additional 4 to 7 million metric tons of carbon dioxide equivalent per year in Oregon’s natural and working lands and waters by 2030 (that are additional to emissions reductions goals). Your report centers around climate-impacted communities, environmental justice, and tribal priorities.

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Sincerely,

Mx. Jessica Klinke

3402 Anderson Creek Rd Talent, OR 97540-7734 ponyexpressica@gmail.com

On 07/20/2021 11:57 AM cordellbank@comcast.net wrote:

To OGWC

Re: Removal of Natural Vegetation on NFS land

Hello, members of the OGWC:

I would like to comment on some proposals outlined in the implementation of the 21st Century Conservation Corps Act.

My primary objections are that many of the proposals are too broad, will increase CO2 emissions, and reduce biodiversity and the resiliency it offers because the odds of the proposed activities actually preventing or slowing a fire are slim to none.

As an example, encouraging logging for biomass production is **NOT** a climate positive position because there would be an unavoidable increase in CO2 emissions, which are the basic cause of our devastating fires and deteriorating climate.

Please do not incentivise the removal of vegetation from our forests. Instead, target job creation for activities that will enhance the environment **WHILE** lowering CO2 emissions

and will actually remove (drawdown) carbon from our atmosphere. These are the actual actions that are **REQUIRED** to deal effectively with global warming.

Thank you for your consideration.

Gail Cordell

Oregon City OR 97045

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

The temperate rainforests of the Pacific Northwest store even more carbon per acre than tropical rainforests, and larger, older trees everywhere store the majority of carbon across the landscapes. Studies have shown that protecting our mature temperate rainforests from logging would store the equivalent of approximately 8 years of regional fossil fuel emissions. This is an incredibly valuable climate solution that I am very grateful the Commission has recognized in its Natural and Working Lands Proposal.

I also strongly support the Proposal's recommendations to:

*Establish a blue-ribbon panel to develop a strategic plan for how to adopt climate-smart forest management strategies in Oregon, *Establish a Natural and Working Lands Council to establish a baseline for GHG emissions reductions and carbon sequestration, *Adopt improvements in the Forest Practices Act to continue to improve climate and carbon sequestration outcomes in Oregon's forests

It is very important that Oregon's GHG emissions from the forestry sector be accurately measured and tracked, ideally as part of DEQ's Greenhouse Gas Sector-Based Inventory Data. Partnering with the FIA to collect better data is a good start, but that data needs to be housed in the same place as all of Oregon's other GHG emissions.

The Proposal should also include the recommendation that the climate impacts from post-fire logging be assessed as part of ODF's environmental assessment process. Salvage logging removes carbon that would otherwise continue to be stored in dead trees on the landscape. Studies show that harvest-related emissions are far higher than emissions from wildfire (Law et al. 2018; Hudiburg et al. 2019). Logging burned forests also further degrades watersheds and hampers natural recovery.

Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,

Ven. Satya Vayu

Portland, OR 97215

Dear Oregon Global Warming Commission,

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The temperate rainforests of the Pacific Northwest store even more carbon per acre than tropical rainforests, and larger, older trees everywhere store the majority of carbon across the landscapes. Studies have shown that protecting our mature temperate rainforests from logging would store the equivalent of approximately 8 years of regional fossil fuel emissions. This is an incredibly valuable climate solution that I am very grateful the Commission has recognized in its Natural and Working Lands Proposal.

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The Proposal should also include the recommendation that the climate impacts from post-fire logging be assessed as part of ODF's environmental assessment process. Salvage logging removes carbon that would otherwise continue to be stored in dead trees on the landscape. Studies show that harvest-related emissions are far higher than emissions from wildfire (Law et al. 2018; Hudiburg et al. 2019). Logging burned forests also further degrades watersheds and hampers natural recovery.

It is important that working forest lands contribute to carbon sequestration as well as habitat retention, to help avert wide spread extinction. Also, small woodland and grassland owners could contribute significantly to long term carbon sequestration with well funded outreach and assistance programs.

Please include feedback systems between agencies, public and private organizations and governor to promote adaptive management and adequate funding to realize or exceed carbon sequestration goals.

Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Dr Clay Knopf

Selma, OR 97538

Dear OGWC: Please accept the attached comments on the Draft Natural and Working Lands Proposal. Please let me know if you have any questions or need additional information.

Thank you,

--

Greg

Greg Holmes
Pronouns: he/him
Food Systems Program Director / Southern Oregon Advocate
1000 Friends of Oregon
PO Box 2442 Grants Pass OR 97528
541.474.1155



210729 comments
on ogwc draft recs to

133 SW 2nd Ave, Suite 201 • Portland, OR 97204 • (503) 497-1000 • friends.org
[Willamette Valley Office • 454 Willamette St, Ste 213 • Eugene, OR 97401](#)
[Southern Oregon Office • PO Box 2442 • Grants Pass, OR 97528](#)
1000 Friends of Oregon is a 501(c)(3) nonprofit organization. Our EIN is 93-0642086.

July 29, 2021

Via email:

Chair Cathy Macdonald, and Members of the
Oregon Global Warming Commission
550 Capitol St NE
Salem, OR 97301

RE: Comments on Oregon Global Warming Commission Draft Natural and Working
Lands Proposal in response to Executive Order 20-04

Dear Chair Macdonald and Members of the Commission,

Thank you for the opportunity to review and provide comments on the draft Natural and Working Lands Proposal (Draft Proposal) in response to Executive Order (EO) 20-04. 1000 Friends of Oregon is a non-profit organization dedicated to working with Oregonians to support livable communities. Whether focused on creating compact communities with transportation options, or on maintaining working lands so that they have the ability to remain in production, much of our work is directly relevant to the work of achieving the goals of the EO.

We appreciate the care the Commission has taken in collecting input and in generating the Draft Proposal. We very much believe that, if chosen carefully, the activities that occur on Oregon's natural and working lands have the potential to both reduce emissions and to create a "resilient and robust climate sink ... while maintaining the health of our economy and communities and enhancing the equity and quality of life for all Oregonians."¹

We will leave it to others to comment on the specifics of the metrics and programs that are proposed, and focus on just one issue. None of these programs can possibly succeed, and thus

none of the goals can be met, unless we maintain the land base on which they need to occur. Oregon's working lands are currently in both public and private ownership. The publicly owned lands—and particularly those in federal ownership—come with their own challenges. However, what happens on the privately owned lands in Oregon is subject to our statewide land use planning program, and is very much influenced by state policy. We appreciate the intent of Strategy 3A, to “Enhance and maintain Oregon’s statewide land use planning program, goals, and commit to a no-net annual loss of resource lands and waters.” And while it will be worthwhile to have DLCD analyze how the current program can be enhanced to best “facilitate the protection and restoration of natural and working lands to increase sequestration,”² there are significant actions that can be taken without further study to stem the ongoing loss of resource lands.

¹ Draft Proposal, p. 4.

² Draft Proposal, p. 10.

2

For example, when Senate Bill 100 was passed in 1973, there were only a handful of uses allowed on land zoned for exclusive farm use (EFU). More uses are added nearly every year, to the point where the current list of uses allowed on EFU is around 60. Some of these uses are related to farming, and help to keep land in production. Some are clearly not related to farming, and result in land being taken out of production directly, as well as, in many cases, conflicts with neighbors that impact their ability to continue farming. Other allowed uses may be related to farming or may not be, depending on the circumstances of the individual application. Collectively, these uses result in losses of farmland every year. Similar problems exist in the allowance of non-forest uses on lands zoned for forestry.

The OGWC’s proposal should recommend that the legislature close the many known existing loopholes that allow non-resource development on resource lands.³

Tools other than regulations also exist to help protect Oregon’s working lands. One such program is the Oregon Agricultural Heritage Program (OAHP). This program was created by the legislature, and the administrative rules for implementing it are in place. However, thus far the program has not been funded. We appreciate that the Draft Proposal calls for the funding of this program. However, we are concerned about recommendations to include other programs under the umbrella of the OAHP. In particular, incorporating a soil health and climate smart agricultural program into the OAHP is likely to require the redesign of a program that was not designed to achieve those outcomes. New legislation may be necessary to incorporate those changes. This could cause further delay to implementation and funding of the program, which otherwise could be rolled out and start accumulating the benefits associated with protecting working lands now.

The OGWC’s proposal should recommend full funding of the OAHP now, and should advocate that programs needed to achieve other stated goals be created and housed in other places.

Thank you for the important work you are doing, and for your consideration of these comments

³ For a detailed discussion of this issue as it relates to EFU lands, and a listing of the allowed uses and the impacts they have, see the report *Death by 1000 Cuts: A 10-Point Plan to Protect Oregon’s Farmland*.

Thank you for recognizing the numerous co-benefits of increasing carbon sequestration on Oregon's natural and working lands. Implementing and scaling up sequestration projects will improve soil health, increase water quality and quantity, and support fish and wildlife habitat. The need for both legislative and administrative action to leverage our natural and working lands as natural climate solutions will be important to leverage federal funding for sequestration projects in Oregon.

Please also incorporate the following into this proposal: We must strive to sequester at least an additional 7 MMTCO_{2e} per year in Oregon's natural and working lands and waters by 2030 and 8 MMTCO_{2e} relative to a 2010 to 2020 net carbon sequestration business-as-usual baseline. We should see a 20 percent increase in sequestration in natural and working lands. We have no time to lose!

A Natural and Working Lands Council should be established and that the Council should set a baseline for the outcome-based goal and the activity and community impact metrics. The Council should also advise state agencies on implementation of the strategies included in this proposal.

Also, a "comprehensive climate smart agricultural program" should include incentives for farmers and ranchers for climate-smart agricultural practices via grants; and more must be done to encourage broad-scale, climate-focused watershed management.

There is room for much improvement in the existing proposal, and I hope that you will attend to the comments received from committed citizens across this state.

On behalf of our grandchildren,

Thank you.
Kim Davis
97306

Sent via form submission from [Keep Oregon Cool](#)

Name: Tia Hatton

Email Address: tiahatton@gmail.com

Subject: NWL Proposal Comments

Message: Dear Chair Macdonald and members of the Oregon Global Warming Commission,

Hello, my name is Tia Hatton. I was born and raised, and currently live, in Bend, Oregon. I have lived and worked in environmental spaces across Oregon - from Eugene, to SE Oregon High Desert, and NE Oregon's rural Wallowa County. I have interned and worked with multiple land trusts that support natural and working lands, and currently work at the Oregon League of Conservation Voters.

The indigenous people of this land should take a high priority and be consulted often. Thank you for prioritizing their voices and livelihoods, as well as those of other environmental justice communities

who bear the brunt of poor environmental safety decisions.

In the land trust world, we prioritize conservation while uplifting natural resource management. Thank you for recognizing the numerous co-benefits associated with increasing carbon sequestration on Oregon's natural and working lands. Healthier soils mean healthier food and less soil loss (soil is sadly being lost at a very high rate) and ecosystems. Please include incentives for farmers to improve their land for healthier soils - those farmers who are already struggling to provide a living for themselves, and food for their communities. Our healthy forests hold so much carbon, and improve water quality, support fish & wildlife, and recreation.

The ability of wetlands to provide a carbon sink is also incredible. Please protect these wetlands, and support ways in which we can better understand and utilize them for carbon sequestration purposes, as well as for wildlife and recreation.

We must move quickly, and we must move boldly. As a young person, I know that it's up to each of us, but more importantly the larger governmental bodies to support the needed capacity for these needed programs.

Thank you very much for your work on this!

Sincerely,

Ms. Tia Hatton
Bend, OR 97701

Hello,

Please see the attached testimony submitted on behalf of LWVOR Climate Coordinator Claudia Keith and LWVOR Forestry Portfolio Josie Koehne.

Thank you,

Amanda Crittenden

Office Administrator

League of Women Voters of Oregon

Pronouns: she/her

Phone: 503-581-5722; Email: lwvor@lwvor.org; Web: www.lwvor.org

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LWVOR Comments
on OGWC DRAFT Pro

The League of Women Voters of Oregon is a 101-year-old grassroots nonpartisan political organization that encourages informed and active participation in government. We envision informed Oregonians participating in a fully accessible, responsive, and transparent government to achieve the common good. LWVOR Legislative Action is based on advocacy positions formed through studies and member consensus. The League never supports or opposes any candidate or political party.
1330 12th St. SE, Suite 200 • Salem, OR 97302 • 503-581-5722 • lwvor@lwvor.org • www.lwvor.org

August 4, 2021

To:	Oregon Global Warming Commission, Catherine MacDonald, Chair
Email: Oregon.GWC@Oregon.gov ; cmacdonald@tnc.org	
Re:	OGWC final draft of Natural and Working Lands Proposal – Support with comments

The League of Women Voters of Oregon’s expectation was that the Oregon Department of Forestry (ODF) and other agencies specified in Governor Brown’s [EO 20-04](#) would be presenting their final plans to meet the Governor’s climate goals on June 30 (now extended to August 4). ODF has not yet provided its final plan.

Each agency called out in the Executive order was directed to provide their agency’s plan towards meeting these specific targets collectively to “reduce its GHG emissions by: (1) at least 45 percent below 1990 emissions levels by 2035; and (2) at least 80 percent below 1990 emissions levels by 2050.” In 1990, there were **56 million metric tons of CO2e** emitted annually in Oregon.

The unfunded Oregon Global Warming Commission was charged by the Governor to develop and submit a **proposal for setting a carbon sequestration goal** for Oregon’s natural and working lands, working in conjunction with ODF, Oregon Dept. of Agriculture (ODA) and the Oregon Watershed Enhancement Board (OWEB). The OGWC proposal points out that this carbon sequestration “equates to a **reduction to 32 million metric tons CO2e (MMTCO2e) in 2035 and 12 MMTCO2e in 2050**. Aligning with the new federal economy-wide goal of reducing in-state emissions by at least 50 percent by 2030, Oregon would need to reduce net emissions to at least 32 MMTCO2e by 2030. Assuming a constant level of emissions reduction from 2019 to 2050, our current emissions target for 2030 is approximately **40 MMTCO2e**.”

The LWVOR’s new forestry positions adopted this summer state: *“all benefits of the forests—ecological, human and economic—are inextricably interconnected. Healthy forests are essential to habitat for a diversity of plant and animal life, to the hydrologic cycle, and to carbon storage to mitigate global warming. In addition, healthy forests are essential to a forest products industry with the jobs and goods they provide, and to the economic and aesthetic values of their recreational opportunities. Therefore, The League of Women Voters of Oregon supports laws and policies to ensure that forest management (for timber extraction, recreation or any other activity) is carried out in a manner that will sustain healthy forests, streams and habitats.” In addition, one of our forestry positions says “Full accounting of all costs, including cumulative ecological impacts, of timber harvests and other forest uses must be considered in forest activity decisions.”*

We are delighted to see that the OGWC also recognizes these values in their current proposal,

released on July 19th. We are glad to see the commission has incorporated the many hours of
[League of Women Voters of Oregon Page 2](#)

1330 12th St. SE, Suite 200 • Salem, OR 97302 • 503-581-5722 • lwvor@lwvor.org • www.lwvor.org

public testimony and scientific research that they solicited in coming up with their recommendations. They affirmed that natural and working lands can play a significant role in reducing atmospheric CO₂e carbon emissions.

They state that as of 2019 data, Oregon's trees currently sequester 12% of US emissions annually, but this figure could be increased by 10-20% by sequestering **an additional 4 to 7 MMTCO₂e per year** in Oregon's natural and working lands and waters **by 2030**, and 5 to 8 MMTCO₂e relative to a 2010 to 2020 net carbon sequestration business-as-usual baseline. This is their Outcome-based Goal which can be achieved through "climate smart forestry practices." The OGWC recommends that ODF evaluate a bold set of scenarios including: **"lengthening harvest rotations on state and private forest lands; increasing protections for mature and old growth forests on state and federal lands as well as areas with high carbon storage potential and co-benefits for threatened and endangered species and improved water quality; implementing forest resilience treatments in fire-prone forests; and reforesting understocked stands and riparian floodplain habitats,"** which are the recommendations of the Oregon Climate Action Plan Natural and Working Lands Table in which the League participated, as well as those of many other conservation groups and climate scientists. We support these recommendations.

Another recommendation we heartily support is to **adopt revisions to the Oregon Forest Practices Act to improve climate mitigation and adaptation outcomes on private lands in Oregon.** Although the Private Forest Accord (MOU) is expected to make recommendations on the Forest Practices Act this fall for adoption in the next session, there is no way to know which climate issues are being considered or are beyond the scope of the MOU.

What we had hoped to see is a plan coming from the OGWC with target reductions starting immediately. Instead of recommending suggested metrics and specific goals for sequestration to start the process going, with actionable plans for increasing tree seedling development, their final recommendation is to start yet another funded committee, the **Natural and Working Lands Council**, to make metrics decisions! We had high hopes that this commission would be doing this work, working in conjunction with climate and technical experts at ODF and ODA! The OGWC knows the annual increases in sequestration capacity needed to meet the CO₂e 20-04 emission reduction goals, yet you defer the decision-making to a newly created and paid committee without scientific expertise to work out the details of OGWC's goals, and that will result at the least another year of delay. **Why not start with assigning a number of acres for afforestation and reforestation this coming year, and then add or decrease these acres as needed, as future research comes in and the wildfire losses are calculated?** There will never be enough research, but action must get started today! ODF could be tasked with locating these added acres. We simply cannot wait for more federal guidance, legislation and funding before we start. The emissions we could be reducing can't wait another minute. The planet is burning up while we delay and delay, with only a handful of years left to stop irreversible damage.

We understand that the OGWC is requesting quite a bit more funding to support these goal recommendations. LWVOR supported funding for OGWC in the 2021 session. However, we are concerned with the request to fund another new group, recommending that "the Legislature should fund and the state should convene a blue-ribbon panel to develop a strategic plan for how to best facilitate adoption of the climate-smart forest management strategies..." Yet another

funding request is for commissioning a study to evaluate the feasibility of potential funding mechanisms the state could establish to support natural and working lands sequestration strategies. A third request is for “strategic investment of state funds in the capacity to take advantage of new federal opportunities.” And “The Legislature should fund and direct DLCDC to conduct an analysis of Oregon’s Statewide Planning Goals.” Other recommendations are funding for incentives and for OWEB (Oregon Agricultural Heritage Program), forestry, agriculture, and blue carbon.

And the final large funding request: “In order to continue to advance a natural and working lands sequestration goal and strategies, the Legislature should fund and create a Natural and Working Lands Council. The Council should be charged with establishing a baseline for the outcome-based goal and the activity and community impact metrics within a year of its establishment. To ensure that the metrics put the most vulnerable communities at the forefront of the potential benefits of increasing carbon sequestration, the Natural and Working Lands Council should be composed of a diverse group of council members, including BIPOC and Tribal representatives, as well as land managers, technical experts, conservation interests, and technical assistance providers.” Although LWVOR believes the OGWC certainly needs funding for this work, we are concerned that this funding discussion will take the place of action and add to delays—action that is needed NOW!

Given that climate change is already devastating the planet and forestry and certain agricultural practices can play a huge role in reducing emissions and keeping the planet cool, the lack of specific, quantifiable, measurable steps to be taken in this document is a disappointment, especially as it relies on voluntary participation exclusively, with monetary incentives and “recognition events” rather than regulation, although the Dept. of Justice (DOJ) has clearly established that ODF, (along with ODA and OWEB and DEQ) already have the regulatory authority to develop carbon offsets, and make much-needed reforms to the Forest Practices Act. We think the OGWC should be funded to continue the work they are recommending. We were very disappointed that Ways and Means included only minimal funding (.5 to 1 FTE) for ODF’s POP 160 this session, to staff the agency’s work on addressing our dire climate emergency. Clearly, addressing climate issues is a high priority of Board of Forestry members as well as the general public and certainly for LWVOR. We think that you are in the best position to make tough decisions and create these metrics yourselves in consultation with ODF’s and OSU’s climate scientists and technical staff, based on current best science, climate-smart forest practices and the existing FIA inventory already at hand. This includes defining “the number of acres with adoption of soil health practices, acres of maintained resource lands, acres of riparian reforestation, and acres of urban forest canopy expansion, etc.”

The work is outlined in ODF’s Climate Change and Carbon Draft Plan:

- “Slowly extend harvest rotations to increase storage while maintaining wood fiberflow to the forest industry.
- Identify areas particularly susceptible to the deleterious effects of climate change and work to conserve them. This includes climate-sensitive habitats, areas of high conservation value, and areas of cultural significance that may become threatened by climate change...with input from tribal and community-based organizations.

- Explore aspects of community forests and operationalize these interests and facets to

the extent practical... Public-private partnerships may provide communities with a greater ability to successfully manage the forests that surround and support them.

- Restore insect and disease impacted areas to productive forests through removal of susceptible species and use of site appropriate species and...managed to restore ecosystem services, including carbon sequestration, through the use of appropriate alternative species and stand management.
- Identify areas that have high carbon storage potential, especially for those that can provide benefits for threatened and endangered species habitat, water quality, and educational and recreation opportunities for Oregonians.
- Identify and operationalize carbon storage in harvest operations. Establish a mechanism to maintain forest carbon on the site when stands are harvested by increasing soil carbon with woody debris, utilization of biochar ... and additional alternatives to burning biomass in the forest.”

The metrics should include a prioritized list with dates identified to meet specified target goals that relate to the amount of MMT of CO₂e to be reduced, and the number of acres that will be treated for adaptation (prescribed fire, thinning, afforestation and reforestation) and the regions identified where this treatment work will be done. **Some of this work is included in the recently passed SB 762 (2021).** Carbon accounting must also include fossil fuel emissions from all forestry operations, including the transportation of logs and wood products, which currently is not included in forest carbon calculations, which some scientists calculate produces greater emissions than the transportation sector.

The OGWC and ODF might consider creative options, other than relying on funding by the Legislature. Is there a way to combine [forest easements](#) with a commercial [forest offset market, consolidated and managed by a state or federal agency](#)? ODF could set standards similar to the [Forest Stewardship Council \(FSC\)](#) requirements for these easements and create a competitive [reverse auction](#) that would compensate private forestland owners willing to preserve their mature and natural mixed forests, and harvest on longer rotations.

To help increase the tree nursery supply, small and large forest owners could be encouraged and advised on how to collect and plant a variety of tree seeds from their own properties for sale. These seedlings would be suited to the local weather conditions, soils and elevations, thereby increasing diversity to meet changed climate conditions. Other potential creative solutions to assure longer rotations and better climate-smart forestry practices can be found [here](#). We hope the OGWC consider other creative options.

We appreciate all the work that has been done on this plan but believe more can be done to address the urgency of our climate emergency. We look forward to working with you to address this urgency. Thank you for the opportunity to provide public input on this draft document.

Rebecca Gladstone	Claudia Keith
LWVOR President	LWVOR Climate Coordinator

Josie Koehne
LWVOR Forestry Portfolio

Hi,

One of the most effective way to mitigate climate change, aside from cracking down on large industrial sources, is the preserve older, real forests. According to my research even smaller acreages with mixed age, mixed species older forests provide a significant amount of carbon capture.

For several years I have attempted to place a conservation easement on my 19 acres in the north coast range. Because of the financial and legal burdens of monitoring conservation easements I have been unable to find anyone interested in doing that. Conventional conservation easements have a high level of monitoring needed in order to comply with IRS requirements. Myself and many others are not doing this for tax purposes but to ensure that the forest will not be harvested upon our death or sale of the property. Once the tax reporting requirements are removed the monitoring and administration costs to land conservancies are greatly reduced.

I am blessed enough to have some land in New Zealand. That land has both cultural and environmental significance. The New Zealand government along with the Queen Elizabeth II Trust (QE2) provides a pathway at basically no cost to landowners to place conservation easements on their property. We placed a conservation easement on our property and it was a very gratifying experience. Each region has a local representative who visits the property periodically to make sure the terms of the conservation easement are being complied with. They paid for the surveying. Had we needed any fencing I think that would've been cost shared. It is truly a win-win model that I would like to see utilized here.

I urge whoever the relevant agencies are to consider this either at a state or a federal level. As the effects of climate change are becoming more and more apparent on a daily basis there is no time to waste. Please take the time to look into this New Zealand program and hopefully you can secure some funding to start something like this here. Please let me know if you have any questions and thank you for taking the time to consider this.

Pam

Pam Selway Birmingham
Earth Advantage Broker
Lifestyle Property and ADU Specialist
Windermere Realty Trust
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Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

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I also strongly support the Proposal's recommendations to:

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Ms Kati Wilson
Corvallis, OR 97333

Please accept the attached public comments on behalf of the Oregon Forest & Resources Council regarding the Oregon Global Warming Commission's draft Natural and Working Lands Proposal published on July 19, 2021.

Kind regards,



Tyler Ernst

Policy Counsel, Manufacturing & Resources
Oregon Forest & Industries Council

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2021-7-26_OGWC
Comments.pdf

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July 26, 2021

Oregon Global Warming Commission
550 Capitol St NE
Salem, OR 9730
VIA EMAIL: Oregon.GWC@oregon.gov

RE: OGWC July 19 Draft Natural Working Lands Proposal

On July 19, the Oregon Global Warming Commission (“OGWC” or the “Commission”) published its revised draft Natural and Working Lands Proposal (the “Proposal”), which is intended to set carbon sequestration goals for Oregon’s natural and working lands. As with prior drafts, this latest draft promoted the need for the state to adopt and encourage “climate smart” natural and working lands strategies to maximize the climate benefits and resiliency of these lands. We appreciate the OGWC’s work on this latest draft, and we especially appreciate that the Commission has moved away from regulatory recommendations and has, instead, focused on promoting and incentivizing voluntary measures. This is a marked improvement of prior versions of the Proposal.

We would also like to express whole-hearted agreement with many of the policy proposals contained in the draft. In particular, we appreciate the Commission acknowledging the ongoing work of the parties to the Private Forest Accord and seeking to give that process the space it needs to work itself out; the concept of a blue-ribbon panel to delve deeper into the data and surface short, mid, and long-term climate solutions that leverage the state’s forestlands; the acknowledgement of the need for the state to expand capacity for reforestation; and promotion of increased forest resiliency treatments to reduce wildfire risks.

That said, the Oregon Forest & Industries Council (“OFIC”) does still have a number of concerns with this latest draft and would ask the Commission to consider revising certain elements before the Proposal is finalized at the OGWC meeting on August 4.

First and foremost, it is not clear how the OGWC arrived at its conclusions regarding the target for increased carbon sequestration on natural and working lands. The 10-20% increase in sequestration over current rates that is articulated in the Proposal is certainly bold – and we recognize the Commission’s desire to take bold action to address climate change – but there is no clear articulation of data suggesting that this contemplated increase is practical or even possible. Additional data about current sequestration rates, where that sequestration is happening, and the theoretical maximum sequestration rate of the state’s natural and working lands are necessary to evaluate the reasonableness of this goal.

We also adamantly disagree with the Commission’s decision to separate this goal from the emissions reduction goals articulated in Governor Brown’s executive order 20-04 and incorporated into the Department of Environmental Quality’s Climate Protection Program (“CPP”) rulemaking. The OGWC’s policy recommendations are being advanced under the auspices of the aforementioned executive order and are therefore inextricably tied to the emissions reductions goals outlined in that order. To treat sequestration (whether from the state’s natural and working lands or otherwise) separately – to fail to recognize sequestration increases over baseline as a viable strategy for reducing net emissions – is to eliminate one of the very tools that may be necessary for regulated sources to meet these new enhanced

emissions limits. We are aware that, as currently contemplated, the CPP would severely restrict the ability of regulated sources to meet their reduction requirements through alternative compliance instruments, but as the OGWC has been granted advisory authority by EO 20-04, it is clearly within the Commission's authority to make suggestions to DEQ regarding future policy changes to the CPP, including how any increases in sequestration across the state should be accounted for.

Second, although the Proposal stops short of defining "climate smart strategies" or "climate smart management practices," there remains a strong inference that climate smart management decisions are those that increase sequestration and storage of carbon on the actual landscape. Though this may be true for certain land categories, it falls short of capturing the entire picture for forests, and therefore risks promoting concepts and practices that do not actually result in the greatest climate benefit. ***The climate benefits of Oregon's forests do not end at harvest.*** Much of the carbon in harvested timber is locked away (i.e. stored) long-term, even indefinitely, in the built environment and in other harvested wood products, and the forest's capacity for active sequestration is maintained (and in some cases may even be enhanced) when harvested lands are replanted to begin the cycle of growth anew.

Therefore, even though carbon storage in harvested wood products does not occur on the actual landscape, a holistic natural and working lands proposal *must* account for the ongoing climate benefits of such processes and products. We suggest that the Proposal be amended to refer not only to goals for carbon sequestration, but to goals for enhancing sequestration *and storage* of carbon, both on the natural landscape and in the built environment.

Third, there is the need for additional clarification and/or changes regarding how certain terms are defined in the Proposal. The Proposal refers repeatedly to "co-benefits" resulting from proposed actions, and though p. 3 contains a partial definition of what is meant by this term, it is not entirely clear what is and is not being promoted as co-benefits that should be considered when adopting policy recommendations. In fact, the first sentence on p. 13 seems to imply that these co-benefits are categorically different than the benefits that flow to communities from timber harvest and its attendant activities, including infrastructure investment and workforce development. To the extent that this accurately summarizes what is meant by these statements in the Proposal, we strongly disagree with excluding the economic and social benefits of harvest activities from the definition of co-benefits. Another example is the foundational term "natural and working lands." Though we can guess at what may be meant by this term, it is not actually defined in the document, and therefore risks creating ambiguity regarding which lands are being included as targets for the policy proposals in the document. Greater clarification on this point would also help to address the questions regarding the feasibility of the sequestration goal that were articulated, above.

Fourth, we have a great deal of concern with the Proposal's failure to cite peer-reviewed literature that seeks to assess and quantify the climate benefits of harvested wood products (including carbon storage and substitution benefits) and/or that assesses net global carbon impacts from certain management decisions in light of factors such as leakage that result when harvests are reduced in one geographical area. This has already been stated, but it is of paramount importance – both for this Proposal and for the policy decisions that flow from it – that the analysis of alternative policies extend beyond the edge of the forest. Without considering the fate of carbon that is stored in trees once those trees are harvested and the net effect of various certain management decisions on *global carbon*, the policy outcomes that are advanced by the OGWC, the state's regulatory agencies, and the proposed blue-ribbon panel are likely to not actually accomplish their stated purpose (i.e. employing natural and working lands in a manner that maximizes their climate benefit). Therefore, we would recommend that the Commission add studies and reports to its list of guiding literature that attempt to quantify these various factors (e.g. [Ganguly et al. \(2020\)](#), [Malmshheimer et al. \(2011\)](#), [Perez-Garcia et al. \(2005\)](#), PNW Research Station studies, [reports](#)), and that the OGWC include recommendations in the Proposal regarding dedication of state resources to facilitate additional research to fill in existing knowledge gaps.

Fifth, though we are generally receptive to the blue-ribbon panel concept that the Proposal advances (and recognizing that this document is not meant to form the operational charter for such a panel) we think that increased specificity regarding the proposed extent of its authority (e.g. which questions, in particular, the panel would be convened to address and which would fall outside of its ambit) would be

prudent.

Finally, we recommend that the Commission delete the paragraph on p. 12 that begins “The OGWC recommends that ODF evaluate a bold set of scenarios including... .” This paragraph makes assumptions about what the two ongoing studies that are cited in the Proposal will conclude and promotes an overlylimited set of policy scenarios that may not even capture the most effective options. To the extent that the OGWC desires to maintain direction to ODF to implement policies that address the findings of these studies, the stated recommendation should be drafted as broadly as possible (e.g. “The OGWC recommends that ODF evaluate a comprehensive set of policy scenarios to address the findings of these two studies and maximize the climate benefits of forests within the state.”).

We appreciate the opportunity to provide feedback, and we look forward to continuing to work with the Global Warming Commission and other partners and stakeholders in surfacing and promoting policies that work for Oregon, that safeguard our state’s natural and working lands, and that appropriately utilize the amazing tools that we have at our disposal as we seek to, as a state, do our part to address climate change.

Sincerely,

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Chair Macdonald and members of the Oregon Global Warming Commission:
On behalf of the Oregon Climate and Agriculture Network, I am providing comments (attached) on the OGWC’s Draft Natural and Working Lands Proposal.

Thank you for your consideration of these comments.

Megan Kemple, Co-Director, Oregon Climate and Agriculture Network (OrCAN)
Director of Policy Advocacy, Development and Operations
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OrCAN's Comments
on Draft+OGWC+Nat

July 27, 2021

Chair Macdonald and members of the Oregon Global Warming Commission (OGWC):
On behalf of the Oregon Climate and Agriculture Network (OrCAN), we are providing comments on the OGWC’s [Draft Natural and Working Lands Proposal](#). OrCAN’s mission is to advance climate resilience on farms in Oregon through collaboration, education, and policy advocacy. We appreciate the robust stakeholder engagement process and the multiple opportunities to

provide input on the Draft Proposal as it was developed. As a result, we see OrCAN's input reflected in the section on pages 6-7 summarizing stakeholder feedback, and we see our recommendations reflected throughout the Draft Proposal. We appreciate that the Proposal recognizes the urgency of the climate crisis and the critical role that the agricultural sector has to

play in addressing it. We also appreciate the recognition of the co-benefits that agricultural practices for carbon sequestration provide.

There are a number of areas where we think the Proposal could and should be strengthened:

- 1) We have concerns about delaying implementation of a program until the study on potential funding sources is completed.
- 2) We would like to see a stronger focus on coordination among agencies.
- 3) The program must include direct incentives to producers for implementation of practices that promote net carbon sequestration.
- 4) Technical assistance, demonstrations and mentorship should come from experienced producers in addition to state agencies, SWCD's, OSU etc.
- 5) Producers need free/reduced-cost soil health testing.
- 6) We would like to see a stronger focus on producer-driven research.
- 7) We would like to see the use of, and better calibration of, existing tools like NRCS's COMET model for measuring and monitoring changes in soil carbon sequestration over time on Oregon's working lands.
- 8) The NWL Council should advise state agencies on implementation of the Strategies.
- 9) We need stakeholder engagement in development and implementation of the Strategies.
- 10) Emissions reduction strategies like energy efficiency, water conservation, and on-farm renewable energy development, should be supported as well, on a voluntary and nonregulatory basis.

More specific feedback is provided in our comments below. Suggested changes and concerns are provided in italics.

Related to the Goals and Metrics, we agree that the outcome-based goal should be separate from, and in addition to, Oregon's sector-based emissions reduction goals as established by the Legislature and updated in Governor Brown's EO 20-04. And we agree that it should be re-evaluated and updated at least every 4 years.

We agree with the recommendation to include activity-based metrics and goals and as well as the importance of three critical mechanisms for change: technical assistance, incentives, and policy development. We appreciate the focus on adoption of practices in the activity-based goal and metrics. We also appreciate the inclusion of community impact metrics and goals with a focus on environmental justice.

The Draft Proposal includes a recommendation that: "the state report on Activity, Funding and Community Impact metrics and goals as part of the OGWC's Biennial Report to the Legislature"

To be consistent with the proposed Goals and Metrics in the Proposal we think this should read: "The OGWC recommends the state report on Outcome, Activity, and Community Impact metrics and goals as part of the OGWC's Biennial Report to the Legislature"

Related to the Proposed Strategies in section IV, we appreciate the inclusion of *all four*

proposed

strategies and recommend their inclusion in the final Proposal to the Governor.

“(1) Position the state to leverage federal lands and investments in climate smart natural and working lands practices;

(2) investigate options and create a sustained source of state funding increase sequestration in natural and working lands;

(3) fund and direct the agencies to take actions to advance natural and working lands strategies;

(4) invest in improvements to Oregon’s natural and working lands inventory.”

Strategy (1): Position the state to leverage federal lands and investments in climate smart natural

and working lands practices.

We agree. This is a huge opportunity which cannot be overlooked and which the state must be well-positioned to take advantage of.

Strategy (2): Investigate and advance options for sustained state funding to increase sequestration in natural and working lands.

We agree that a sustained investment by the state will be needed as well. We appreciate the recognition of the need for education, engagement and technical assistance. We would appreciate clarity on the term engagement and what that would look like. The recommendation to “provide incentives to help land managers adopt climate-smart practices” is critical. We appreciate the recognition of the need to evaluate the feasibility of potential funding mechanisms to support these strategies, but *we have concerns about delaying implementation until the study is completed. The study should be conducted as quickly as possible and any available funding sources should be utilized before the study’s completion if possible.*

Strategy (3) Fund and direct state agencies to take actions to advance key natural and working lands strategies.

We agree with the recommendation to direct state agencies to take actions to advance key natural and working lands strategies, and we agree they will need funding to do so. *We would like to see a stronger focus on coordination among agencies beyond the NWL Council. We recommend the addition of a sub-strategy on interagency coordination, or mention of this coordination throughout the Proposal.*

Strategy 3A) Enhance and maintain Oregon’s statewide land use planning program, goals and commit to a nonet annual loss of resource lands and waters.

We appreciate the focus on land use planning and the recognition of emissions reductions and carbon sequestration potential of protected resource lands.

Strategy 3B) Invest in Oregon’s crop and rangelands through the establishment of a comprehensive climatesmart agricultural program and funding for the Oregon Agricultural Heritage Program

The establishment of a “comprehensive climate smart agricultural program” is critical and efforts of ODA, OWEB, OSU, SWCDs, and NRCS are essential. Non-governmental organizations may also be able to provide technical assistance or other valuable support. While the recommended components of the program are laudable and strong, *the program must include direct incentives to producers for implementation of practices that promote net carbon sequestration. And incentive programs must be designed to compensate those who are already*

implementing these practices. These producers are typically innovators who are important demonstrators working against the grain of conventional markets on tight financial margins. They will use these funds to both sustain their work and push land management in new, more resilient directions. We recommend adding to the list under The Program Should: "Provide direct incentives to producers for implementation of practices that promote carbon sequestration."

We appreciate the inclusion of other climate smart practices beyond soil health such as nutrient management, manure management, alley cropping and expansion of riparian plantings.

We recommend funding the Oregon Agricultural Heritage Program (OAHP) as a natural and working lands protection strategy. However, we are concerned about the recommendation to make the soil health and climate smart agricultural program a part of the Oregon Agricultural Heritage Program (OAHP). We recommend that these programs remain separate, that the legislature fund OAHP directly, and that a soil health and climate-smart agricultural program be created and housed somewhere else.

Strategy 3E) Expand climate-smart protection, restoration and improved management training and technical assistance programs

We appreciate the recognition of the need for technical assistance which will be critical to successful implementation of practices. Farmers learn best from the successful examples from other farmers through farm visits, demonstrations, consultations and mentorship from experienced farmers, and case studies of working farms. *The Proposal referenced the need for technical assistance, demonstrations and mentorship, but most focused on support from state agencies, SWCD's, OSU etc, rather than experienced producers. We strongly recommend specifying that those entities should take advantage of the knowledge and relationships experienced farmers can provide. Providing a variety of technical assistance options will be best to meet farmers where they are at and will be more likely to provide what they need. We recommend focusing on providing funding to farmer mentors, tribal liaisons, and training the trainers (for example OSU Extension and SWCD staff).*

Additionally, OrCAN heard repeatedly from producers, in our own focus groups, that *producers need free/reduced-cost soil health testing (including soil biology) to help them understand the state of their soils, the potential for improving soil health on their land, assist researchers in linking management practices to outcomes, and potentially provide baseline data for carbon markets. We need to increase the capacity for soil health technicians to support Oregon's farmers and ranchers, including BIPOC producers, those in all parts of the state, and range and pasture soils. Producers also want training in field indicators for soil health. These could be listed as examples of the types of technical assistance that are needed.*

Strategy 4) Invest in improvements to Oregon's natural and working lands inventory data and research into climate smart management practices.

We agree that investments in improvements to Oregon's natural and workinglands inventory are needed. *Specifically, we recommend the state:*

- *Ground truth CaRPE modeling exercises by region, with on the ground interviews with NRCS, SWCDs, and producers to better understand past successes and challenges in adoption of practices; and*
- *Work in collaboration with NRCS to better calibrate the COMET model for Oregon. It's the most ready tool we have to estimate greenhouse gas reductions on farms and would position Oregon to be in strong alignment with NRCS and federal conservation funds.*

We also strongly agree that investment in research into climate smart management practices are needed. We need research on the potential of specific practices to sequester carbon in the soil, specific to Oregon's regions, soils, and crop types. *We would like to see a stronger focus on producer-driven research, to better understand how practices can work on the ground in each region for specific crop types. The following language could be added to the section on Croplands and Rangelands: "Agricultural stakeholders recommend the state also take advantage of producer-driven research."*

Regarding section V: Next Steps: We agree that a Natural and Working Lands Council should be established and that the Council should establish a baseline for the out-come based goal and the activity and community impact metrics. *The Council should also advise state agencies on implementation of the strategies included in this proposal.* We agree that the Council should be "composed of a diverse group of council members, including BIPOC and Tribal representatives, as well as land managers, technical experts, conservation interests, and technical assistance providers."

We recommend a two other significant additions to the Proposal:

Beyond the Natural and Working Lands Council, we are not seeing opportunities for stakeholder

engagement in development or implementation of these strategies. *The state must facilitate multi-stakeholder collaboration both public and private, in development and implementation of these strategies and ensure the inclusion of BIPOC farmers in decision-making.* As the Proposal has

acknowledged, producers, especially BIPOC producers, are important stakeholders and need to be

heard and included in this stakeholder engagement process. Engaging diverse stakeholders in program development will strengthen these programs and ensure they work for all of Oregon's farmers and ranchers.

Originally the Commission was seeking recommendations for practices, incentives and other policy options Oregon should pursue to achieve a natural and working lands emissions and sequestration goal. We noticed that emissions reductions strategies are not included in the Draft

Proposal. We understand that emissions reductions were not included in the natural and working lands directive in EO 20-04, and understand that the OGWC has not recommended an emissions reduction goal for NWL. But *we'd encourage the OGWC to recognize the importance of emissions reduction strategies such as energy efficiency, water conservation, and on-farm renewable energy development, and include a recommendation that state agencies should support implementation of these strategies and practices, as well, on a voluntary and nonregulatory basis.*

Thank you so much for your consideration of these comments.

Megan Kemple, Co-Director, Oregon Climate and Agriculture Network (OrCAN)
Director of Policy Advocacy, Development and Operations

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Chair Macdonald and members of the Oregon Global Warming Commission:

On behalf of the Agriculture/Water Policy Sub-table of the Oregon Climate Action Plan (OCAP) Coalition, we are providing comments (attached) on the OGWC's Draft Natural and Working Lands Proposal.

Thank you for your consideration of these comments and for the many opportunities to provide input during this process.

Megan Kemple and Grace Brahler,
Co-Leads of Ag/water Sub-table of Oregon Climate Action Plan (OCAP) Coalition



OCAP Ag Water
Comments on Draft+

July 27, 2021

Chair Macdonald and members of the Oregon Global Warming Commission (OGWC):
On behalf of the Agriculture/Water Policy Sub-table of the Oregon Climate Action Plan (OCAP) Coalition, we are providing comments on the OGWC's [Draft Natural and Working Lands Proposal](#).

The OCAP Coalition engages at every step of the Executive Order on Climate Action (EO 20-04) implementation process, working to ensure the strongest possible outcomes for our climate, our communities and our economy.

We appreciate the robust stakeholder engagement process and the multiple opportunities to provide input on the Draft Proposal as it was developed. As a result, we see the OCAP Coalition's

input and recommendations reflected throughout the Draft Proposal. We appreciate that the Proposal recognizes the urgency of the climate crisis and the role that natural and working lands

can and should play in addressing it, through practices that increase carbon sequestration. We also appreciate the recognition of the many environmental, social and economic co-benefits these practices provide.

Based on research that was cited in the Draft Proposal and the urgency of the climate crisis, we believe the proposed outcome-based goal is appropriate, however we recommend using the metrics at the higher end of each range only, rather than a range: "Sequester at least an additional 7 MMTCO₂e per year in Oregon's natural and working lands and waters by 2030,

and 8 MMTCO_{2e} relative to a 2010 to 2020 net carbon sequestration business-as-usual baseline.” We should see a 20 percent increase in sequestration in natural and working lands. The goal should be reevaluated and updated at least every four years.

We appreciate the recommendation to include activity-based metrics and goals and the focus on adoption of practices. The activity-based metrics can assist in defining parameters for practices by setting up sound, stable practices, adopting those practices with stakeholder input, and updating them as science directs. We also appreciate the inclusion of community impact metrics and goals with a focus on environmental justice.

The Draft Proposal includes a recommendation that: “the state report on Activity, Funding and Community Impact metrics and goals as part of the OGWC’s Biennial Report to the Legislature”

To be consistent with the proposed Goals and Metrics in the Proposal we think this should read: “The OGWC recommends the state report on Outcome, Activity, and Community Impact metrics

and goals as part of the OGWC’s Biennial Report to the Legislature”

Related to the Proposed Strategies in section IV, we appreciate the inclusion of *all four proposed strategies* and recommend their inclusion in the final Proposal.

“(1) Position the state to leverage federal lands and investments in climate smart natural and working lands practices;

(2) investigate options and create a sustained source of state funding to increase sequestration in natural and working lands;

(3) fund and direct the agencies to take actions to advance natural and working lands strategies;

(4) invest in improvements to Oregon’s natural and working lands inventory.”

Regarding Strategy #1: We appreciate the recognition that taking advantage of opportunities for

federal funding will require an investment in capacity for state agency staff to track federal program development and determine how the state can leverage them.

Regarding Strategy #2: Similar to our comment directly above, we appreciate the recognition that funding will be needed for state agency staff to develop and implement these strategies, as well as the need for education, engagement and technical assistance. The recommendation to “provide incentives to help land managers adopt climate-smart practices” is critical. We appreciate the recognition of the need to evaluate the feasibility of potential funding mechanisms to support these strategies, but we have concerns about delaying implementation until the study is completed. The study should be conducted as quickly as possible; meanwhile, existing available funding sources should be utilized before the study’s completion if possible.

Regarding Strategy #3 A: We appreciate the focus on land use planning. However, in order to capture the full potential of working lands to contribute to emissions reductions and carbon

sequestration, those lands must remain in production. Recommendations should be included in the proposal for closing current loopholes in land use planning protections allowing nonagriculture related uses in the exclusive farm use (EFU) zone, and for preventing or mitigating

the impacts of major public and private facilities such as highways, pipelines, and energy production facilities on working lands. In addition, when natural and working lands are proposed for conversion to non-resource uses or when major public facilities are proposed, the decision-making criteria should include an assessment and mitigation of climate impacts, including loss of carbon sequestration potential.

Regarding Strategy #3B: The establishment of a “comprehensive climate smart agricultural program” is critical and efforts of ODA, OWEB, OSU and SWCDs are essential, as well as technical assistance or support from non-governmental organizations, which are not included in the current draft. While the recommended components of the program are laudable and strong,

it will be necessary to provide incentives to producers, in the form of grants, for implementation

of practices that promote carbon sequestration.

We recommend funding the Oregon Agricultural Heritage Program (OAHP) as a natural and working lands protection strategy. However, we are concerned about the recommendation to make the soil health and climate smart agricultural program a part of the Oregon Agricultural Heritage Program (OAHP). While full implementation of OAHP will provide carbon benefits, this program was created for different purposes and has yet to be funded by the legislature. We believe that the statute that created OAHP would have to be amended to house a new soil health and climate smart agricultural program, and that doing so would further delay implementation and funding of the OAHP, which otherwise is ready to begin operation. We recommend that these programs remain separate, that the legislature fund OAHP directly, and that a soil health and climate-smart agricultural program be created and housed somewhere else.

Regarding Strategy #3C: Relative to forest management, please see the comments to be submitted separately by the Forest Policy Sub-table of the OCAP Coalition.

Regarding Strategy #3 D: We support the protection and restoration of estuaries and coastal wetlands for their “blue carbon” potential. However, we would like to see a more comprehensive focus on all aquatic ecosystems. We ask that the OGWC also recognize the significance of floodplains, riparian buffers, inland wetlands, lakes, and reservoirs, which have been shown to be important for long-term carbon sequestration and atmospheric cooling.¹

Regarding Strategy #3 E: We appreciate the recognition of the need for technical assistance and workforce training which will be critical to successful implementation of practices and which can

provide valuable co-benefits to the economy and communities.

Regarding Strategy #4: We agree that investments in improvements to Oregon’s natural and working lands inventories are needed, including an inventory of the current state of soil health on Oregon’s natural and working lands.

Regarding the section on pages 6-7 summarizing stakeholder feedback, which should serve as a guide for implementation: We appreciate the recognition of strong stakeholder feedback about

barriers to adoption of new practices and the inequities and barriers facing Climate Impacted Communities. The recommendation to “align the strategies with other state needs and goals-- equity, climate adaptation, water quantity and quality, community resilience, and native fish and wildlife habitat protection and restoration” is important. We recommend recognizing the value of community based projects and their potential to implement carbon sequestering practices, serve as visible demonstration/model sites, and support impacted rural communities. Regarding section V: Next Steps: We support a Natural and Working Lands Council that will establish a baseline for the outcome based goal and the activity and community impact metrics and goals. We recommend that these metrics track the adoption of the carbon sequestration practices recommended by stakeholders and included in Appendix B of the proposal. The Council

should also advise state agencies on implementation of the strategies included in this proposal. We agree that the Council should be “composed of a diverse group of council members, including

¹ Nahlik, A. M., & Fennessy, M. S. (2016). Carbon storage in US wetlands. *Nature Communications*, 7(1), 1-9, <https://www.nature.com/articles/ncomms13835.pdf> (discussing how carbon stored in inland freshwater wetlands is

often overlooked but important for regional carbon storage); Tranvik, L. J. et al. (2009). Lakes and reservoirs as regulators of carbon cycling and climate. (2009). *Limnol. Oceanogr.* 54, 2298-2314, https://aslopubs.onlinelibrary.wiley.com/doi/abs/10.4319/lo.2009.54.6_part_2.2298.

BIPOC and Tribal representatives, as well as land managers, technical experts, conservation interests, and technical assistance providers.”

We also want to note that the Oregon Water Resources Department (OWRD) and Oregon Department of Fish and Wildlife (ODFW) were not included in the list of agencies mentioned in section V, though their work impacts Oregon’s natural and working lands and could affect progress toward the goal. It will be important for those agencies to coordinate with the named agencies to advance these strategies.

We recommend several significant additions to the Proposal:

Beyond the Natural and Working Lands Council, we are not seeing opportunities for stakeholder

engagement in development or implementation of these strategies. Coordinating state agencies

should facilitate multi-stakeholder collaboration, both public and private, in development and implementation of these strategies. Stakeholder engagement must include: farmers and ranchers

engaged in a variety of types of agricultural practices including organic, conventional, regenerative

and sustainable practices; BIPOC producers and farmworkers; soil and climate scientists; and environmental and water advocates.

Originally the Commission was seeking recommendations for practices, incentives and other policy options Oregon should pursue to achieve a natural and working lands emissions *and* sequestration goal. We noticed that emissions reductions strategies are not included in the Draft

Proposal. We understand that emissions reductions were not included in the natural and working lands directive in EO 20-04 and that the OGWC has not recommended an emissions

reduction goal for NWL. Despite this, we would encourage the OGWC to recognize the importance of emissions reduction strategies and include a recommendation that state agencies

should support implementation of these strategies and practices on natural and working lands on a voluntary and non-regulatory basis.

In the list of agricultural practices that contribute to carbon sequestration included in Appendix B, we recommend inclusion of the following practices, which were included in [our original Recommendations](#):

- Growth of perennial crops and rangeland grasses, which have the potential to sequester carbon.
- Reduced and selective chemical inputs, which protects microbial health increasing the potential of soils to sequester carbon.²
- Diversified cropping systems, which might ensure that a diversity of carbon compounds is present in the soil, improving soil carbon sequestration potential.³

² Gunstone, T., Cornelisse, T., Klein, K., Dubey, A., and Donley, N. Pesticides and Soil Invertebrates: A Hazard Assessment. *Front. Environ. Sci.* (2021). <https://doi.org/10.3389/fenvs.2021.643847> (In 71% of cases studied, pesticides killed or harmed soil invertebrates including earthworms, ants, beetles and ground nesting bees.)

³ Kane, D. Carbon Sequestration Potential on Agricultural Lands: A Review of Current Science and Available Practices. (2015). http://sustainableagriculture.net/wp-content/uploads/2015/12/Soil_C_review_Kane_Dec_4-final-v4.pdf. See

also Kravchenko, A.N., Guber, A.K., Razavi, B.S. et al. Microbial spatial footprint as a driver of soil carbon stabilization.

Nat Commun 10, 3121 (2019). <https://doi.org/10.1038/s41467-019-11057-4>.

Thank you so much for your consideration of our comments.

Megan Kemple and Grace Brahler,

Co-Leads of Ag/water Sub-table of Oregon Climate Action Plan (OCAP) Coalition

Dear Chair Macdonald and Members of the Oregon Global Warming Commission,

I write first to thank you for your work on addressing climate change in Oregon. It is some of the most important work being doing in the state these days, as we face what has now become a climate emergency.

I also write concerning the natural and working lands carbon sequestration goal you are addressing. I want to speak in particular to forestry issues. In particular I urge you to: to urge you to address the recommend that the Oregon Department of Forestry

- Recommend that ODF evaluate a bold set of scenarios including:
 - lengthening harvest rotations on state and private forest lands;
 - increasing protections for mature and old growth forests on state and federal lands as well as areas with high carbon storage potential and co-benefits for threatened and endangered species and improved water quality;

Call for the speedy selection and appointment of a blue-ribbon panel to develop a strategic plan for how to best facilitate adoption of the climate-smart forest management strategies that show the most climate mitigation and adaptation promise across all lands in Oregon.
Recommend the much-needed revision of the Oregon Forest Practices Act
Set ambitious sequestration targets that are additional to emissions reductions goals.

Thank you for your attention to these matters.

Be well,

Rob Kugler

Rob Kugler
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Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

The temperate rainforests of the Pacific Northwest store even more carbon per acre than tropical rainforests, and larger, older trees everywhere store the majority of carbon across the landscapes. Studies have shown that protecting our mature temperate rainforests from logging would store the equivalent of approximately 8 years of regional fossil fuel emissions. This is an incredibly valuable climate solution that I am very grateful the Commission has recognized in its Natural and Working Lands Proposal.

I also strongly support the Proposal's recommendations to:

*Establish a blue-ribbon panel to develop a strategic plan for how to adopt climate-smart forest management strategies in Oregon, *Establish a Natural and Working Lands Council to establish a baseline for GHG emissions reductions and carbon sequestration, *Adopt improvements in the Forest Practices Act to continue to improve climate and carbon sequestration outcomes in Oregon's forests

It is very important that Oregon's GHG emissions from the forestry sector be accurately measured and tracked, ideally as part of DEQ's Greenhouse Gas Sector-Based Inventory Data. Partnering with the FIA to collect better data is a good start, but that data needs to be housed in the same place as all of Oregon's other GHG emissions.

The Proposal should also include the recommendation that the climate impacts from post-fire logging be assessed as part of ODF's environmental assessment process. Salvage logging removes carbon that would otherwise continue to be stored in dead trees on the landscape. Studies show that harvest-related emissions are far higher than emissions from wildfire (Law et al. 2018; Hudiburg et al. 2019). Logging burned forests also further degrades watersheds and hampers natural recovery.

Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Mr. Michael Cooper
Sisters, OR 97759

Chair Macdonald and members of the Oregon Global Warming Commission:

I appreciate the emphasis on the essential role of agricultural solutions to our urgent climate crisis, in the Draft NWL Proposal. I have reviewed the draft proposal and I think it is a good foundation for moving forward. I would like to suggest the following as ways in which the Proposal should be strengthened and the areas it is already strong in.

Areas for Strengthening and Improving the Draft NWL Proposal:

- 1) The Proposal referenced the need for technical assistance, demonstrations and mentorship, but most focused on support from state agencies, SWCD's, OSU, etc. Support for farmer-to-farmer mentorship and education should also be included.
- 2) I would like to see a stronger focus on producer-driven research, to better understand how practices can work on the ground in each region for specific crop types.
- 3) Producers need free/reduced-cost soil health testing to help them understand the state of their soils, the potential for improving soil health on their land, and to assist researchers in linking management practices to outcomes. We need to increase the capacity of soil health technicians to support Oregon's farmers and ranchers, including BIPOC producers. This capacity building should happen throughout all regions of the state, especially for range and pasture soils. Producers also want training in field indicators for soil health.
- 4) The program must include direct incentives to producers for implementation of practices that promote carbon sequestration. Incentive programs must be designed to compensate innovators who are already implementing these practices.

5) I am excited to see that the Proposal recommends developing a state funded climate smart agriculture program. Its launch must begin as soon as possible. In particular, Oregon needs to be ready to leverage opportunities coming from the federal level. We cannot continue to wait for studies.

6) We need stakeholder engagement in development and implementation of the Strategies. The state must facilitate multi-stakeholder collaboration, both public and private, in development and implementation of these strategies and ensure the inclusion of BIPOC farmers in decision-making.

Areas the Proposal Is Strong In

1) It is my recommendation that you include all 4 recommended strategies in the final Proposal to the Governor.

- Position the state to leverage federal lands and investments in climate smart natural and working lands practices;

- Investigate options and create a sustained source of state funding to increase sequestration in natural and working lands;

- Fund and direct the agencies to take actions to advance natural and working lands strategies;

- Invest in improvements to Oregon's natural and working lands inventory.

2) I was pleased to see this stakeholder feedback, below, reflected in pages 6-7 of the Proposal and encourage you to include it in the final Proposal:

- Recognizing barriers to adoption of new agricultural practices, including challenges with accessing programs, as well as the need for the technical support and mentorship;

- Recognizing and addressing the inequities Black, Indigenous and People of Color (BIPOC) land managers face in accessing financial resources and the added barriers that creates to their adoption of new practices.

- The recommendation that the state work to develop programs to invest in a suite of practices that make sense for farms all across the state;

- Advance programs that incentivize voluntary conservation measures that land managers can use to adopt practices that increase carbon sequestration.

- The importance of engaging stakeholders, including Tribes, other historically underrepresented groups, land managers, technical assistance providers and conservation organizations in program design and implementation;

- The process used to develop these programs needs to recognize and address the inequities and barriers facing Climate Impacted Communities such as inequities in access to information and technical assistance, and barriers to participation in stakeholder meetings, as well as language barriers.

- The need for increased investments in education, technical assistance, recognition and financial support for adoption of practices;

- The value of developing programs that employ an integrated systems based approach by including diverse natural and working lands strategies as well as practices to reduce other sector-based emissions (e.g., energy efficiency, water conservation, on-farm renewable energy development);

- Policies and programs should be streamlined.

Thank you for considering my feedback.

Sylvia Gregory

Dear Oregon Global Warming Commission,

I first worked on climate change and forest policy twenty years ago, and I am so grateful you are taking action to prioritize longer rotations and protections for mature and old growth forests. My three kids will thank you too!! :-)

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

The temperate rainforests of the Pacific Northwest store even more carbon per acre than tropical rainforests, and larger, older trees everywhere store the majority of carbon across the landscapes. Studies have shown that protecting our mature temperate rainforests from logging would store the equivalent of approximately 8 years of regional fossil fuel emissions. This is an incredibly valuable climate solution that I am very grateful the Commission has recognized in its Natural and Working Lands Proposal.

I also strongly support the Proposal's recommendations to:

- *Establish a blue-ribbon panel to develop a strategic plan for how to adopt climate-smart forest management strategies in Oregon,
- *Establish a Natural and Working Lands Council to establish a baseline for GHG emissions reductions and carbon sequestration,
- *Adopt improvements in the Forest Practices Act to continue to improve climate and carbon sequestration outcomes in Oregon's forests

It is very important that Oregon's GHG emissions from the forestry sector be accurately measured and tracked, ideally as part of DEQ's Greenhouse Gas Sector-Based Inventory Data. Partnering with the FIA to collect better data is a good start, but that data needs to be housed in the same place as all of Oregon's other GHG emissions.

The Proposal should also include the recommendation that the climate impacts from post-fire logging be assessed as part of ODF's environmental assessment process. Salvage logging removes carbon that would otherwise continue to be stored in dead trees on the landscape. Studies show that harvest-related emissions are far higher than emissions from wildfire (Law et al. 2018; Hudiburg et al. 2019). Logging burned forests also further degrades watersheds and hampers natural recovery.

Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Ms. Darcy Rose
Portland, OR 97212

Please see the attached.

Thank you,

Helen Kennedy



July 21 EQC
REVISED July 26 2021

July 26, 2021

Governor Kate Brown
Governor's Office
900 Court Street NE, Suite 254
Salem, OR 97301-4047

Chair Kathleen George and members of the
Environmental Quality Commission
700 NE Multnomah St., #600
Portland, OR 97232

*Re: **Correction of July 21, 2021 letter:** Department of Environmental Quality (DEQ) proposed rules regarding cap and reduce greenhouse gas emissions from stationary and transportation sources (Rules).*

Dear Governor Brown, Chair George and Environmental Quality Commission (EQC) members,

My letter of July 21, 2021 had an error. It stated:

5. Exempting industrial process emissions from stationary sources. This, in combination with the vague and ill-defined Community Climate Investment (CCI) program, raises the issue of an entity paying a nonprofit to fund process changes at its own facilities.

I mistakenly thought that “end of pipe” GHG emissions from industrial sources would be under the cap and be required to reduce. But these emissions would not be part of the trading system or the CCI program. It is hard for me to fathom that DEQ’s Rules would actually *shield* industrial sources by replacing cap and reductions with a Best Available Emissions Reductions (BAER) technology approach.

The Rules have no requirements of ensuring that the entities actually install BAER technology because DEQ proposes to allow each facility to define its BAER technology, regardless of what is the best available in other states, for similar facilities in Oregon, or years earlier than the permit renewal date. In essence, the Rules purport to apply the traditional regulatory approach of taking 25 or more years of slowly reducing pollution *without* reduction requirements even though these have existed in pollution laws and regulations since the 1970s.

The Rules would codify “business as usual”, or voluntary GHG emissions reductions, which history have shown does not work. Indeed, they give Oregonians the false hope that DEQ will be regulating these entities so as to achieve any GHG reductions, when timely reductions aren’t required.

For industrial sources, the Rules appear to be completely empty, exposing the EQC to claims that they are sham regulations. Your leadership is needed quickly to ensure DEQ remedies these deficiencies before the formal public notice period. I strongly urge the Governor and the members of the Commission to direct DEQ to change its Rules to ones that meet the law and the EO.

Respectfully,

Helen M. Kennedy, Esq., MS, Environmental Science (retired)
Marcola, OR

Cc: DEQ Director Whitman
Oregon Global Warming Commission; Cathy McDonald, Chair

It is now well known that forests, and particularly old growth forest, sequester carbon; with the ravaging effects of climate change looming over all of us, now is the time to act and include old growth carbon reserves for protection on public land. We need bigger riparian buffers and more tree conservation in general- the future of the planet depends on what we, as a society, do now. So protect our trees!

Thank you,

Lisa Hogan
10560 NE Skidmore St
Portland, OR 97220
lisa.hgn@gmail.com

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

The temperate rainforests of the Pacific Northwest store even more carbon per acre than tropical rainforests, and larger, older trees everywhere store the majority of carbon across the landscapes. Studies have shown that protecting our mature temperate rainforests from logging would store the equivalent of approximately 8 years of regional fossil fuel emissions. This is an incredibly valuable climate solution that I am very grateful the Commission has recognized in its Natural and Working Lands Proposal.

I also strongly support the Proposal's recommendations to:

- *Establish a blue-ribbon panel to develop a strategic plan for how to adopt climate-smart forest management strategies in Oregon,
- *Establish a Natural and Working Lands Council to establish a baseline for GHG emissions reductions and carbon sequestration,
- *Adopt improvements in the Forest Practices Act to continue to improve climate and carbon sequestration outcomes in Oregon's forests

It is very important that Oregon's GHG emissions from the forestry sector be accurately measured and tracked, ideally as part of DEQ's Greenhouse Gas Sector-Based Inventory Data. Partnering with the FIA to collect better data is a good start, but that data needs to be housed in the same place as all of Oregon's other GHG emissions.

The Proposal should also include the recommendation that the climate impacts from post-fire logging be assessed as part of ODF's environmental assessment process. Salvage logging removes carbon that would otherwise continue to be stored in dead trees on the landscape. Studies show that harvest-related emissions are far higher than emissions from wildfire (Law et al. 2018; Hudiburg et al. 2019). Logging burned forests also further degrades watersheds and hampers natural recovery.

Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Mr. John Jordan-Cascade
Eugene, OR 97401

Dear Oregon Global Warming Commission,

I write to thank you for setting strong carbon sequestration goals for Oregon's natural and working lands. Recommendations for longer logging rotations and additional protections for mature and old growth forests on public lands are especially important. It is vital that we protect the few remaining mature and old growth stands—doing so must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

In the Pacific Northwest, our temperate rainforests store even more carbon per acre than tropical rainforests. Everywhere, it is the larger, older trees that store the majority of carbon. Studies have shown that protecting our mature temperate rainforests from logging would store the equivalent of approximately 8 years of regional fossil fuel emissions. This is an incredibly valuable climate solution that I am very grateful the Commission has recognized in its Natural and Working Lands Proposal.

I strongly support the Proposal's recommendations to:

- *Establish a blue-ribbon panel to develop a strategic plan for how to adopt climate-smart forest management strategies in Oregon,
- *Establish a Natural and Working Lands Council to establish a baseline for GHG emissions reductions and carbon sequestration,
- *Adopt improvements in the Forest Practices Act to continue to improve climate and carbon sequestration outcomes in Oregon's forests

It is very important that Oregon's GHG emissions from the forestry sector be accurately measured and tracked, ideally as part of DEQ's Greenhouse Gas Sector-Based Inventory Data. Partnering with the FIA to collect better data is a good start, but that data needs to be housed in the same place as all of Oregon's other GHG emissions.

The Proposal should also include the recommendation that the climate impacts from post-fire logging be assessed as part of ODF's environmental assessment process. Salvage logging removes carbon that would otherwise continue to be stored in dead trees on the landscape. Studies show that harvest-

related emissions are far higher than emissions from wildfire (Law et al. 2018; Hudiburg et al. 2019). Logging burned forests also further degrades watersheds and hampers natural recovery.

Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Ms. Amalia Gladhart
Eugene, OR 97405

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

The temperate rainforests of the Pacific Northwest store even more carbon per acre than tropical rainforests, and larger, older trees everywhere store the majority of carbon across the landscapes. Studies have shown that protecting our mature temperate rainforests from logging would store the equivalent of approximately 8 years of regional fossil fuel emissions. This is an incredibly valuable climate solution that I am very grateful the Commission has recognized in its Natural and Working Lands Proposal.

I also strongly support the Proposal's recommendations to:

- *Establish a blue-ribbon panel to develop a strategic plan for how to adopt climate-smart forest management strategies in Oregon,
- *Establish a Natural and Working Lands Council to establish a baseline for GHG emissions reductions and carbon sequestration,
- *Adopt improvements in the Forest Practices Act to continue to improve climate and carbon sequestration outcomes in Oregon's forests

It is very important that Oregon's GHG emissions from the forestry sector be accurately measured and tracked, ideally as part of DEQ's Greenhouse Gas Sector-Based Inventory Data. Partnering with the FIA to collect better data is a good start, but that data needs to be housed in the same place as all of Oregon's other GHG emissions.

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Mrs Joanne Walters
Portland, OR 97217

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

The temperate rainforests of the Pacific Northwest store even more carbon per acre than tropical rainforests, and larger, older trees everywhere store the majority of carbon across the landscapes. Studies have shown that protecting our mature temperate rainforests from logging would store the equivalent of approximately 8 years of regional fossil fuel emissions. This is an incredibly valuable climate solution that I am very grateful the Commission has recognized in its Natural and Working Lands Proposal.

I also strongly support the Proposal's recommendations to:

*Establish a blue-ribbon panel to develop a strategic plan for how to adopt climate-smart forest management strategies in Oregon, *Establish a Natural and Working Lands Council to establish a baseline for GHG emissions reductions and carbon sequestration, *Adopt improvements in the Forest Practices Act to continue to improve climate and carbon sequestration outcomes in Oregon's forests

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Ms. Sheila Redman
Portland, OR 97217

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

The temperate rainforests of the Pacific Northwest store even more carbon per acre than tropical rainforests, and larger, older trees everywhere store the majority of carbon across the landscapes. Studies have shown that protecting our mature temperate rainforests from logging would store the equivalent of approximately 8 years of regional fossil fuel emissions. This is an incredibly valuable climate solution that I am very grateful the Commission has recognized in its Natural and Working Lands Proposal.

I also strongly support the Proposal's recommendations to:

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Mrs. Regan Fisher
Portland, OR 97215

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a

central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

The temperate rainforests of the Pacific Northwest store even more carbon per acre than tropical rainforests, and larger, older trees everywhere store the majority of carbon across the landscapes. Studies have shown that protecting our mature temperate rainforests from logging would store the equivalent of approximately 8 years of regional fossil fuel emissions. This is an incredibly valuable climate solution that I am very grateful the Commission has recognized in its Natural and Working Lands Proposal.

I also strongly support the Proposal's recommendations to:

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Dr. Martin Fisher
Portland, OR 97215

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

The temperate rainforests of the Pacific Northwest store even more carbon per acre than tropical rainforests, and larger, older trees everywhere store the majority of carbon across the landscapes. Studies have shown that protecting our mature temperate rainforests from logging would store the equivalent of approximately 8 years of regional fossil fuel emissions. This is an incredibly valuable

climate solution that I am very grateful the Commission has recognized in its Natural and Working Lands Proposal.

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Mr. Michael LeClair
Morgan Hill, CA 95037

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

The temperate rainforests of the Pacific Northwest store even more carbon per acre than tropical rainforests, and larger, older trees everywhere store the majority of carbon across the landscapes. Studies have shown that protecting our mature temperate rainforests from logging would store the equivalent of approximately 8 years of regional fossil fuel emissions. This is an incredibly valuable climate solution that I am very grateful the Commission has recognized in its Natural and Working Lands Proposal.

I also strongly support the Proposal's recommendations to:

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Ms. Jessica Dahmen
Portland, OR 97230

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

The temperate rainforests of the Pacific Northwest store even more carbon per acre than tropical rainforests, and larger, older trees everywhere store the majority of carbon across the landscapes. Studies have shown that protecting our mature temperate rainforests from logging would store the equivalent of approximately 8 years of regional fossil fuel emissions. This is an incredibly valuable climate solution that I am very grateful the Commission has recognized in its Natural and Working Lands Proposal.

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Ms. Susan Norman-Jones
Brookings, OR 97415

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

The temperate rainforests of the Pacific Northwest store even more carbon per acre than tropical rainforests, and larger, older trees everywhere store the majority of carbon across the landscapes. Studies have shown that protecting our mature temperate rainforests from logging would store the equivalent of approximately 8 years of regional fossil fuel emissions. This is an incredibly valuable climate solution that I am very grateful the Commission has recognized in its Natural and Working Lands Proposal.

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

I lived in Oregon for 11 years and am still deeply in love with it but the 2020 fire season made me want to not live there anymore because it is only going to be the same/worse from now on. Please save this amazing state and the whole west coast.

Sincerely,
Ms. Gail Ohara
Carrboro, NC 27510

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Mr. James Milling
Hood River, OR 97031

Hi Commissioners,

Thank you for advocating to make Oregon a leader in carbon sequestration.

Kind Regards,

Lenny Dee

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

The temperate rainforests of the Pacific Northwest store even more carbon per acre than tropical rainforests, and larger, older trees everywhere store the majority of carbon across the landscapes. Studies have shown that protecting our mature temperate rainforests from logging would store the equivalent of approximately 8 years of regional fossil fuel emissions. This is an incredibly valuable climate solution that I am very grateful the Commission has recognized in its Natural and Working Lands Proposal.

I also strongly support the Proposal's recommendations to:

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Mr. Albert Kaufman
Portland, OR 97215

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

The temperate rainforests of the Pacific Northwest store even more carbon per acre than tropical rainforests, and larger, older trees everywhere store the majority of carbon across the landscapes. Studies have shown that protecting our mature temperate rainforests from logging would store the equivalent of approximately 8 years of regional fossil fuel emissions. This is an incredibly valuable climate solution that I am very grateful the Commission has recognized in its Natural and Working Lands Proposal.

I also strongly support the Proposal's recommendations to:

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Mr. Erik Geiger
Portland, OR 97213

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

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Sincerely,
Mr. Lloyd Vivola
Portland, OR 97236

Dear Oregon Global Warming Commission,

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Sincerely,
Ms Carolyn Latierra
Portland, OR 97212

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Ms. Kate Fuqua
Portland, OR 97215

Dear Chair Macdonald and Members of the Oregon Global Warming Commission:

Thank you so much for drafting a climate mitigation strategy for Oregon that not only addresses the climate crisis but protects clean water and biodiversity. While we face local wildfire crises and a global extinction crisis, I am greatly cheered by recommendations that tackle these problems head on.

Thank you so much for centering your report around environmental justice and tribal priorities. We can't do this without all Oregonians, and we can't make our most marginalized citizens pay the greatest price for a problem that belongs to all of us.

Thank you particularly for calling for climate-smart agricultural programs and calling for a blue-ribbon panel to help implement and adopt climate-smart forest management strategies. These programs and strategies can protect Oregon's rural economies while helping people across the globe cope with climate change.

This report is a tremendous first step, and one that should hearten all Oregonians. I hope you know that you have my full support!

All the best,

Wendy N. Wagner
Writer & Editor
<http://winniewoohoo.com>

she/her, they/them

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Mr. Charles Clarke
Salem, OR 97302

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old

growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

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Sincerely,
Mrs. Sherry Palmer
West Linn, OR 97068

Dear Oregon Global Warming Commission,

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Sincerely,
Mx. Lee and Marilyn Rengert
Salem, OR 97304

Dear Oregon Global Warming Commission,

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Sincerely,
Mr Cameron Derbyshire
Eugene, OR 97401

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Sincerely,
Ms. GRACE NEFF
Albany, OR 97322

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Sincerely,
Ms. Rosalie Sable
Medford, OR 97501

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Sincerely,
Ms. Barbara Taylor
North Bend, OR 97459

Dear Oregon Global Warming Commission,

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Mrs. Cam Wolff
Milwaukie, OR 97267

Dear Oregon Global Warming Commission,

It's time to be bold and actually do something to mitigate global climate change.

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Mr. RHYS THOMAS
Portland, OR 97218

Dear Commission Members,

As a citizen of Oregon and inhabitant of a planet in atmospheric crisis, I commend you for your recent report. Thank you for your leadership in the use of natural climate solutions that increase biodiversity and protect our water supply in watersheds across Oregon. Your report is comprehensive and is what we need to implement ASAP. I'd like to highlight several details in the report that are particularly important.

- Setting ambitious sequestration targets that are additional to emissions reductions goals.
- Recommending that ODF evaluate a bold set of scenarios including:
 - lengthening harvest rotations on state and private forest lands.
 - increasing protections for mature and old growth forests on state and federal lands as well as areas with high carbon storage potential and co-benefits for threatened and endangered species and improved water quality.
- Calling for improvements to Oregon's natural and working lands inventory data.

The last few months we have seen the effects of climate change in extreme examples of Oregon including our record-breaking heat wave, the Bootleg fire, and drought, especially in the Klamath basin. Thank you for all your time and efforts to help deal with climate change that is ravaging our state!

David

7/22/2021

To: Chair MacDonald and Members of the Oregon Global Warming Commission

From: Inga Fisher Williams
2824 NE Cesar E Chavez Blvd
Portland, Oregon 97212

Re: Natural and Working Lands Carbon Sequestration Goal

When I moved to Oregon many decades ago, I was inspired by Governor McCall who showed his love for his home state with exemplary policy initiatives that benefit us all today. His example of environmental stewardship created a legacy for Oregonians, one to regard with pride.

Forestry used to be a major part of Oregon's resource economy and many of Oregon's forestry policies, rules and practices still reflect that past. As we are witness to many of the predicted consequences of a warming climate, it is urgent to update this historic approach with climate-smart forestry practices as a framework. Foremost are lengthening rotation cycles in public and private forests and protection of remaining mature and old-growth stands on state and federal land.

Needed are such essential tools as an updated inventory, a baseline for measuring outcomes of climate focused strategies, and to aid in this transition, a strategic plan to guide implementation.

It is hoped that OGWC will be a voice toward making Oregon a leader in showing the promise of climate adaptation in forestry nationally.

Inga Fisher Williams
NE Portland

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

The temperate rainforests of the Pacific Northwest store even more carbon per acre than tropical rainforests, and larger, older trees everywhere store the majority of carbon across the landscapes. Studies have shown that protecting our mature temperate rainforests from logging would store the equivalent of approximately 8 years of regional fossil fuel emissions. This is an incredibly valuable climate solution that I am very grateful the Commission has recognized in its Natural and Working Lands Proposal.

I also strongly support the Proposal's recommendations to:

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Mr Eric Lambart
Portland, OR 97217

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Sincerely,
Miss Katherine Lacaze
Seaside, OR 97138

Subject: Letter for July 22, 2021 EQC meeting

Please see the attached letter.

Thank you,

Helen Kennedy
Marcola, OR



EQC Governor
Comment July 21.pdf

1
July 21, 2021

Governor Kate Brown George and Office of the Governor	Commissioner Kathleen members of the Environmental Quality Comm 700 NE Multnomah St., #600 Portland, OR 97232
900 Court Street NE, Suite 254 Salem, OR 97301-4047	

Re: Department of Environmental Quality (DEQ) proposed rules regarding cap and reduce greenhouse gas emissions from stationary and transportation sources (Rules).

Dear Governor Brown, Chair George and Environmental Quality Commission (EQC) members, Soon DEQ will initiate formal public review of its proposed Rules to reduce greenhouse (GHG) gas emissions. These Rules are too weak to make a material difference; they will not achieve GHG reductions at the rate or in the amount needed for Oregonians and mandated by law and Executive Order 20-04 on Climate (EO). They are not adequate and should not go to the public without significant changes. The Governor and the Commission should act now to lead DEQ to revising the Rules to comport with the Oregon law, the EO and current climate science. Below I will explain why the Rules are inadequate and list major areas that need revising. But first, a bit about my life experiences. My 33-year career was in environmental policy and law, with a MS in Environmental Sciences, and a JD. About half of it was in federal, tribal and state government service as a policy analyst, and in 1988 as an enforcement attorney. For the balance, I represented companies (e.g., Boeing; Weyerhaeuser; lead fabricator; fuel suppliers & marketers).

I am also a survivor of the 2020 Holiday Farm Fire in Lane County from which we were evacuated for 12 days. The Fire has had a significant impact on me and my community, which luckily experienced particulates, debris and food losses due to electrical outages. This summer community anxieties are high here and statewide due to the hot, drought conditions and large fires such as the Bootleg Fire.

At the time of the Holiday Farm Fire, I was participating in DEQ's workshops on how to design the Rules. I petitioned DEQ to make rules that were aggressive to make up for lost time and to

meet the law, science and expectations of Oregonians. DEQ has not yet done so. It has frequently dismissed or ignored suggestions for a strong program from many entities with little or any justification that would pass legal muster. The Rules are designed to allow increase in emissions, and to exempt emissions.

As the Governor and Commissioners, your roles are to ensure that DEQ's acts in accordance with law and the interest of all Oregonians. The cap and reduce rules will be the most consequential decision the EQC members have ever made. But the proposed Rules do not comport with the law or current climate science, both of which are the foundations of the EO. Oregon soared past two statutory goals, the Jan. 1, 2010 goal of arresting and beginning to reduce GHG emissions, and the January 1, 2020 goal that GHG emissions be 10% less than 1990 emissions. *HB 3543(2007)*. Entities regulated under these Rules should have achieved a total decrease of around 3 MMT of Carbon Equivalents by Jan 1, 2020. Instead, emissions from these entities increased significantly. If the flaws in the Rules go uncorrected, Oregon will continue with increasing emissions before 2026, and not achieve the 2020 goal until after 2032.

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During the last 12 years climate scientists have repeated elevated their warnings to governments to take urgent, bold actions that reduce GHG emissions before we crossed tipping points. In response, Governor Brown issued the EO making it crystal clear that the reduction goals must be science-based, and directed both DEQ and EQC to take "all necessary actions" to reduce GHG emissions from the sources covered by the Rules to be lower than "at least" 45% of 1990 levels by Jan 1 2035, a decrease of about 14 MM tons of Carbon Equivalents, not the 6 or so contemplated by the Rules.

Note that the terms "at least" in EO reduction goals, and the law for the 2050 set minimum goals; not maximums ones as contemplated by the Rules. The statutory words are included because the physics of global warming. Everyone knew in 2007 that global warming temperatures were accelerating and if emissions were not arrested and started to decline by 2010, more aggressive reductions would be needed in shorter time-frames. In the past month, scientists have warned that because we are not on track to reduce emissions by 50% of 2010 levels by 2030, the needle has moved yet again, climate disasters have and are accelerating and the 2030 goal now needs to be more aggressive in less time.

The Rules are flawed. DEQ has not provided any predictions as to if and how the features will result in GHG emissions reductions at the rate mandated in current law and the EO, much less how the Rules will ensure that reduction rates will increase to match the science. These fatal features can be remedied if you act now.

They include, but are not limited to:

1. Changing the baseline date from which emissions reduction percentages will be measured from 1990 to the average of 2017-2019 without adjusting the percentage of emissions reductions to meet the law, EO, or science.
2. Exempting entities that emit less than 100,000 mt of CO2 equivalents annually.
3. Exempting fugitive emissions from pipelines and other transportation modes.
4. Including Community Climate Investments (CCI) that are offsets for GHG emissions without requiring or ensuring environmental justice by protecting impacted communities from co-pollutants, significant reductions before using a CCI, guarantees of at least a 1:1 GHG reduction ratio, any monitoring for successes, consequences for failures, or partial CCI implementation. In addition, California's program limits offsets to 8% and has not shown significant offset benefits overall. So, allowing 20% of emissions as offsets in these rules, without integrity, seems foolhardy.
5. Exempting industrial process emissions from stationary sources. This, in combination with the vague and ill-defined CCI program, raises the issue of an entity

paying a nonprofit to fund process changes at its own facilities.

6. Failing to set a cap or reduction schedules for “end of pipe” industrial sources, contrary to the language in EO ¶ 4.

7. Excluding sequestration projects from CCIs, particularly those that also decrease emissions from current agricultural practices. The program could easily lead to no or next to no CCIs in rural Oregon.

3

8. Omitting either a definition or DEQ final say on what is the best available emissions reductions technology for each stationary entity, or provisions for adjusting this as new technologies become available.

9. Omitting definitions and consequences such that enforcement of compliance with the program is next to impossible.

The need for the EQC and the Governor to step in and correct the course for at least three reasons. First, we are running out of time. Reports and warnings issued by climate scientists in the past few months show that rises in global temperatures and adverse climate events are accelerating more quickly than predicted. The time window for bold actions is closing to avoid massive life and economic damages. Oregon leaders need to adjust both the timeline and the amount of GHG reductions to match the science.

Second, The Rules lack incentives for the regulated entities to achieve greater reductions faster than DEQ’s time frame. The past 14 years has shown that the regulated community will not voluntarily make reductions sooner rather than later. Without government incentives, the entities have little reason to be creative or to seek financial investments for emissions reductions. Third, all the issues outlined above were identified last July through September by the large coalition of diverse groups advocating a science-based program for emissions reductions along with climate equity for impacted communities (tribes, BIPOC, rural, vulnerable). Yet, DEQ has weakened the program and failed to incorporate suggestions from these groups, including at least ten members of the Rules Advisory Committee.

In closing, DEQ has proposed such a weak program such that it fails miserably to meet the law, the EO, all without justifying that its program is based on evidence, science, or predictions that it will meet the needs of Oregonians. With your prompt leadership, DEQ can quickly remedy these deficiencies before the formal public notice period. I strongly urge the Governor and the members of the Commission to direct DEQ in writing to change its proposed rules to ones that meet the law and the EO by ensuring bold, rapid reductions in GHG emissions that match the climate science while ensuring equity and protecting impacted communities and incentives to industry.

Respectfully,

Helen M. Kennedy, Esq., MS, Environmental Science (retired)
Marcola, OR

Cc:	DEQ Director Whitman Oregon Global Warming Commission, Cathy McDonald, Chair
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Dear Chair Macdonald and Members of the Oregon Global Warming Commission:

It is increasingly difficult for climate deniers or even those that don't want to deal to ignore climate extremes around the world. It feels like we are finally at the tipping point that scientists have been warning about for decades. It is encouraging to know that Oregon has the leadership the world needs right now.

I want to thank the entire Commission for taking such constructive and encouraging steps as outlined in your report and acknowledging that “the greatest potential for increasing carbon sequestration in Oregon is associated with the management of Oregon’s forest.” I want to further commend your specific recommendations around increasing protections for old growth forests, revising the Oregon Forest Practices Act, and call for the development of a strategic plan around forest management that prioritizes best practices as they refer to climate.

There are so many positive call-outs in the report, but I do want to express gratitude for centering environmental justice and tribal priorities. While we watch our beautiful forests burn, it is easy to ignore the more vulnerable among us - we've been programmed for decades to think selfishly. Thank you for remembering we are a community of caring Oregonians. Your recommendations will also help preserve our non-human community and protect important biodiversity and water-supply watersheds.

I stand by you as a willing soldier in this fight to preserve our planet and all its life forms.

With gratitude,
Sally DeSipio
West Linn

Dear Oregon Global Warming Commission,

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The temperate rainforests of the Pacific Northwest store even more carbon per acre than tropical rainforests, and larger, older trees everywhere store the majority of carbon across the landscapes. Studies have shown that protecting our mature temperate rainforests from logging would store the equivalent of approximately 8 years of regional fossil fuel emissions. This is an incredibly valuable climate solution that I am very grateful the Commission has recognized in its Natural and Working Lands Proposal.

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Sincerely,
Ms. jane beckwith
Eugene, OR 97405

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Dr. Justin Jelen
Portland, OR 97209

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Dr. Neel Patel
San Francisco, CA 94117

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Mr. Bill Bradbury
Bandon, OR 97411

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Ms. Susan Dornfeld
Corvallis, OR 97330

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Sincerely,
Mr. Steve Elliot
Swishhome, OR 97480

Cathy:

The Southern Oregon Climate Action Now Natural Resources Program's Forests and Fire Project team met today and discussed this proposal. We considered there to be a large number of really promising components to the proposal but would like - if possible - to engage you in a discussion of a couple of critical issues in the hope of learning the best tactic for conveying to the OGWC some suggestions regarding (1) the oft-mentioned climate smart concept - which we think is an invaluable concept for guiding forest management but the term is often used rather glibly without a clear understanding of what it means, and (2) the benefit of encouraging DEQ to include carbon sequestration among the Climate Investment options since this could offer a source of financing to incentivize sequestration in a budget climate where funds are in short supply.

We are wondering if you might be available next week some time for a ZOOM discussion with three of us to explore these issues. If that could work for you, I will send a draft of our comments to give you a sense of from where we are coming on these issues.

All the best,

Alan

Alan Journet
Co-facilitator
Southern Oregon Climate Action Now (SOCAN)

<https://socan.eco>

541-301-4107

7113 Griffin Lane

Jacksonville, OR 97530-9342

alanjournet@gmail.com or

alan@socan.eco

Please see the attached letter.

Thank you,

Helen Kennedy
Marcola, OR



EQC Governor
Comment July 21.pdf

July 21, 2021

Governor Kate Brown George and Office of the Governor	Commissioner Kathleen members of the Environmental Quality Comm 700 NE Multnomah St., #600 Portland, OR 97232
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Re: Department of Environmental Quality (DEQ) proposed rules regarding cap and reduce greenhouse gas emissions from stationary and transportation sources (Rules).

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The need for the EQC and the Governor to step in and correct the course for at least three reasons. First, we are running out of time. Reports and warnings issued by climate scientists in the past few months show that rises in global temperatures and adverse climate events are accelerating more quickly than predicted. The time window for bold actions is closing to avoid massive life and economic damages. Oregon leaders need to adjust both the timeline and the amount of GHG reductions to match the science.

Second, The Rules lack incentives for the regulated entities to achieve greater reductions faster

than DEQ's time frame. The past 14 years has shown that the regulated community will not voluntarily make reductions sooner rather than later. Without government incentives, the entities have little reason to be creative or to seek financial investments for emissions reductions. Third, all the issues outlined above were identified last July through September by the large coalition of diverse groups advocating a science-based program for emissions reductions along with climate equity for impacted communities (tribes, BIPOC, rural, vulnerable). Yet, DEQ has weakened the program and failed to incorporate suggestions from these groups, including at least ten members of the Rules Advisory Committee.

In closing, DEQ has proposed such a weak program such that it fails miserably to meet the law, the EO, all without justifying that its program is based on evidence, science, or predictions that it will meet the needs of Oregonians. With your prompt leadership, DEQ can quickly remedy these deficiencies before the formal public notice period. I strongly urge the Governor and the members of the Commission to direct DEQ in writing to change its proposed rules to ones that meet the law and the EO by ensuring bold, rapid reductions in GHG emissions that match the climate science while ensuring equity and protecting impacted communities and incentives to industry.

Respectfully,
Helen M. Kennedy, Esq., MS, Environmental Science (retired)
Marcola, OR

Cc:	DEQ Director Whitman Oregon Global Warming Commission, Cathy McDonald, Chair
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Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands and protecting the few remaining mature and old growth stands we have. These old forests need to remain standing not chipped or downed for lumber.

Thank you for your leadership in developing this Proposal.

I strongly support the natural climate solutions being included in Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Ms. Robin Vesey
Portland, OR 97219

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old

growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

The temperate rainforests of the Pacific Northwest store even more carbon per acre than tropical rainforests, and larger, older trees everywhere store the majority of carbon across the landscapes. Studies have shown that protecting our mature temperate rainforests from logging would store the equivalent of approximately 8 years of regional fossil fuel emissions. This is an incredibly valuable climate solution that I am very grateful the Commission has recognized in its Natural and Working Lands Proposal.

I also strongly support the Proposal's recommendations to:

*Establish a blue-ribbon panel to develop a strategic plan for how to adopt climate-smart forest management strategies in Oregon, *Establish a Natural and Working Lands Council to establish a baseline for GHG emissions reductions and carbon sequestration, *Adopt improvements in the Forest Practices Act to continue to improve climate and carbon sequestration outcomes in Oregon's forests

It is very important that Oregon's GHG emissions from the forestry sector be accurately measured and tracked, ideally as part of DEQ's Greenhouse Gas Sector-Based Inventory Data. Partnering with the FIA to collect better data is a good start, but that data needs to be housed in the same place as all of Oregon's other GHG emissions.

The Proposal should also include the recommendation that the climate impacts from post-fire logging be assessed as part of ODF's environmental assessment process. Salvage logging removes carbon that would otherwise continue to be stored in dead trees on the landscape. Studies show that harvest-related emissions are far higher than emissions from wildfire (Law et al. 2018; Hudiburg et al. 2019). Logging burned forests also further degrades watersheds and hampers natural recovery.

Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Ms Judith Fisher
Halfway, OR 97834

Dear Chair Macdonald and Comissioners,

Thank you for your positive and enlightened recommendation concern Global Warming and the part Oregon can play in dealing with this emergency.

Recognizing the large role our forest play in the sequestration of CO2 is vital. Recommending to the ODF to increase the rotation time of harvesting and setting aside more natural and old growth is important to stress. And while you are at it please see to the revision of the Oregon Forestry Practices Act that encourage a greater role for sequestration.

Thank you
Bill Kucha
Chair of 350 Oregon Central Coast

Sent from my iPad

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Miss Alijana Fisher
Portland, OR 97222

Dear Oregon Global Warming Commission,

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Ms Joan Walker
Bishop, CA 93514

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Dr. Ryan Rounkles
Eugene, OR 97402

Chair McDonald,

I am writing in the hopes you will support protecting our Old Growth and mature trees in Oregon. These trees are vital for our future. Please do not allow them to be logged. Our state and federal lands should be conserved - but especially our Old Growth and mature forests. Please work toward this end.

Thank you for your time,
Kirsten Jacobson

Sent from my iPhone

Dear Chair Macdonald and Members of the Oregon Global Warming Commission;

I want to affirm and thank the Commission for taking these constructive and encouraging steps forward:

- Recommending that ODF evaluate a bold set of scenarios including:
 - lengthening harvest rotations on state and private forest lands;
 - increasing protections for mature and old growth forests on state and federal lands as well as areas with high carbon storage potential and co-benefits for threatened and endangered species and improved water quality;
- Calling for a blue-ribbon panel to develop a strategic plan for how to best facilitate adoption of the climate-smart forest management strategies that show the most climate mitigation and adaptation promise across all lands in Oregon.
- Recommending revision of the Oregon Forest Practices Act
- Setting ambitious sequestration targets that are additional to emissions reductions goals.
- Recognizing the need for new funding and new capacity within Oregon's state agencies.
- Centering the report around environmental justice and tribal priorities.
- Working with federal land management agencies to ensure federal lands are part of Oregon's Natural and Working Lands goal.
- Calling for improvements to Oregon's natural and working lands inventory data.
- Calling for a Natural and Working Lands Council to establish a baseline for the outcome-based goal and the activity and community impact metrics within a year of its establishment.

I fully support what the report states as a “comprehensive climate mitigation strategy for Oregon.”

Thank you;

KB Mercer
Managing Director



www.travelinglantern.com

800 936 4723

[FB](#) [Twitter](#) [Instagram](#) [Blogspot](#)

Chair Macdonald and Members of the Oregon Global Warming Commission,

Thank you for your service in putting together this proposed goal for carbon sequestration on natural and working lands, and for centering the concerns of BIPOC communities in this process.

Cathy Lewis-Dougherty

Concerned Oregon Resident

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

The temperate rainforests of the Pacific Northwest store even more carbon per acre than tropical rainforests, and larger, older trees everywhere store the majority of carbon across the landscapes. Studies have shown that protecting our mature temperate rainforests from logging would store the equivalent of approximately 8 years of regional fossil fuel emissions. This is an incredibly valuable climate solution that I am very grateful the Commission has recognized in its Natural and Working Lands Proposal.

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,

Ms. Elizabeth Rogers-Wallace
Eugene, OR 97402

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
ms mari glasser
Springfield, OR 97477

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Mx. Richard Merrill
Bandon, OR 97411

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Dr. David Mildrexler
Enterprise, OR 97828

Dear Oregon Global Warming Commission,

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Mr. Steve Buss
Bend, OR 97703

Dear Oregon Global Warming Commission,

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Sincerely,
Mr. Robert Jensen
Prineville, OR 97754

Dear Oregon Global Warming Commission,

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Mr. Robert Bresky
Oregon City, OR 97045

Dear Oregon Global Warming Commission,

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Ms. Adele Dawson
Florence, OR 97439

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Mr Arjen Hoekstra
Eugene, OR 97405

Dear Oregon Global Warming Commission,

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Mr. Steven Soltész
Eugene, OR 97405

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

The temperate rainforests of the Pacific Northwest store even more carbon per acre than tropical rainforests, and larger, older trees everywhere store the majority of carbon across the landscapes. Studies have shown that protecting our mature temperate rainforests from logging would store the equivalent of approximately 8 years of regional fossil fuel emissions. This is an incredibly valuable climate solution that I am very grateful the Commission has recognized in its Natural and Working Lands Proposal.

I also strongly support the Proposal's recommendations to:

*Establish a blue-ribbon panel to develop a strategic plan for how to adopt climate-smart forest management strategies in Oregon, *Establish a Natural and Working Lands Council to establish a baseline for GHG emissions reductions and carbon sequestration, *Adopt improvements in the Forest Practices Act to continue to improve climate and carbon sequestration outcomes in Oregon's forests

It is very important that Oregon's GHG emissions from the forestry sector be accurately measured and tracked, ideally as part of DEQ's Greenhouse Gas Sector-Based Inventory Data. Partnering with the FIA to collect better data is a good start, but that data needs to be housed in the same place as all of Oregon's other GHG emissions.

The Proposal should also include the recommendation that the climate impacts from post-fire logging be assessed as part of ODF's environmental assessment process. Salvage logging removes carbon that would otherwise continue to be stored in dead trees on the landscape. Studies show that harvest-related emissions are far higher than emissions from wildfire (Law et al. 2018; Hudiburg et al. 2019). Logging burned forests also further degrades watersheds and hampers natural recovery.

Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Mr. Stephen Smack
Portland, OR 97213

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

The temperate rainforests of the Pacific Northwest store even more carbon per acre than tropical rainforests, and larger, older trees everywhere store the majority of carbon across the landscapes. Studies have shown that protecting our mature temperate rainforests from logging would store the equivalent of approximately 8 years of regional fossil fuel emissions. This is an incredibly valuable climate solution that I am very grateful the Commission has recognized in its Natural and Working Lands Proposal.

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Mr. Lawrence Nagel
Ashland, OR 97520

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

The temperate rainforests of the Pacific Northwest store even more carbon per acre than tropical rainforests, and larger, older trees everywhere store the majority of carbon across the landscapes. Studies have shown that protecting our mature temperate rainforests from logging would store the equivalent of approximately 8 years of regional fossil fuel emissions. This is an incredibly valuable climate solution that I am very grateful the Commission has recognized in its Natural and Working Lands Proposal.

I also strongly support the Proposal's recommendations to:

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- *Establish a Natural and Working Lands Council to establish a baseline for GHG emissions reductions and carbon sequestration,
- *Adopt improvements in the Forest Practices Act to continue to improve climate and carbon sequestration outcomes in Oregon's forests

It is very important that Oregon's GHG emissions from the forestry sector be accurately measured and tracked, ideally as part of DEQ's Greenhouse Gas Sector-Based Inventory Data. Partnering with the FIA to collect better data is a good start, but that data needs to be housed in the same place as all of Oregon's other GHG emissions.

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would otherwise continue to be stored in dead trees on the landscape. Studies show that harvest-related emissions are far higher than emissions from wildfire (Law et al. 2018; Hudiburg et al. 2019). Logging burned forests also further degrades watersheds and hampers natural recovery.

Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Mrs. Linda Simington
Aurora, OR 97002

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

The temperate rainforests of the Pacific Northwest store even more carbon per acre than tropical rainforests, and larger, older trees everywhere store the majority of carbon across the landscapes. Studies have shown that protecting our mature temperate rainforests from logging would store the equivalent of approximately 8 years of regional fossil fuel emissions. This is an incredibly valuable climate solution that I am very grateful the Commission has recognized in its Natural and Working Lands Proposal.

I also strongly support the Proposal's recommendations to:

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- *Establish a Natural and Working Lands Council to establish a baseline for GHG emissions reductions and carbon sequestration,
- *Adopt improvements in the Forest Practices Act to continue to improve climate and carbon sequestration outcomes in Oregon's forests

It is very important that Oregon's GHG emissions from the forestry sector be accurately measured and tracked, ideally as part of DEQ's Greenhouse Gas Sector-Based Inventory Data. Partnering with the FIA to collect better data is a good start, but that data needs to be housed in the same place as all of Oregon's other GHG emissions.

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Ms. Patricia Hathaway
Eugene, OR 97405

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

The temperate rainforests of the Pacific Northwest store even more carbon per acre than tropical rainforests, and larger, older trees everywhere store the majority of carbon across the landscapes. Studies have shown that protecting our mature temperate rainforests from logging would store the equivalent of approximately 8 years of regional fossil fuel emissions. This is an incredibly valuable climate solution that I am very grateful the Commission has recognized in its Natural and Working Lands Proposal.

I also strongly support the Proposal's recommendations to:

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Ms. Jane Heisler
Portland, OR 97214

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

The temperate rainforests of the Pacific Northwest store even more carbon per acre than tropical rainforests, and larger, older trees everywhere store the majority of carbon across the landscapes. Studies have shown that protecting our mature temperate rainforests from logging would store the equivalent of approximately 8 years of regional fossil fuel emissions. This is an incredibly valuable climate solution that I am very grateful the Commission has recognized in its Natural and Working Lands Proposal.

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Ms. Rosalind O'Donoghue
Redmond, OR 97756

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

The temperate rainforests of the Pacific Northwest store even more carbon per acre than tropical rainforests, and larger, older trees everywhere store the majority of carbon across the landscapes. Studies have shown that protecting our mature temperate rainforests from logging would store the equivalent of approximately 8 years of regional fossil fuel emissions. This is an incredibly valuable climate solution that I am very grateful the Commission has recognized in its Natural and Working Lands Proposal.

I also strongly support the Proposal's recommendations to:

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Ms. Dena Turner
Portland, OR 97215

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

The temperate rainforests of the Pacific Northwest store even more carbon per acre than tropical rainforests, and larger, older trees everywhere store the majority of carbon across the landscapes. Studies have shown that protecting our mature temperate rainforests from logging would store the equivalent of approximately 8 years of regional fossil fuel emissions. This is an incredibly valuable climate solution that I am very grateful the Commission has recognized in its Natural and Working Lands Proposal.

I also strongly support the Proposal's recommendations to:

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Mrs. Dorothy Benson
Eugene, OR 97405

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

The temperate rainforests of the Pacific Northwest store even more carbon per acre than tropical rainforests, and larger, older trees everywhere store the majority of carbon across the landscapes. Studies have shown that protecting our mature temperate rainforests from logging would store the equivalent of approximately 8 years of regional fossil fuel emissions. This is an incredibly valuable climate solution that I am very grateful the Commission has recognized in its Natural and Working Lands Proposal.

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Ms. teresa mcgrath
Portland, OR 97212

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

The temperate rainforests of the Pacific Northwest store even more carbon per acre than tropical rainforests, and larger, older trees everywhere store the majority of carbon across the landscapes. Studies have shown that protecting our mature temperate rainforests from logging would store the equivalent of approximately 8 years of regional fossil fuel emissions. This is an incredibly valuable climate solution that I am very grateful the Commission has recognized in its Natural and Working Lands Proposal.

I also strongly support the Proposal's recommendations to:

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- *Adopt improvements in the Forest Practices Act to continue to improve climate and carbon sequestration outcomes in Oregon's forests

It is very important that Oregon's GHG emissions from the forestry sector be accurately measured and tracked, ideally as part of DEQ's Greenhouse Gas Sector-Based Inventory Data. Partnering with the FIA to collect better data is a good start, but that data needs to be housed in the same place as all of Oregon's other GHG emissions.

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would otherwise continue to be stored in dead trees on the landscape. Studies show that harvest-related emissions are far higher than emissions from wildfire (Law et al. 2018; Hudiburg et al. 2019). Logging burned forests also further degrades watersheds and hampers natural recovery.

Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Ms. Nancy Renison
Sisters, OR 97759

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

The temperate rainforests of the Pacific Northwest store even more carbon per acre than tropical rainforests, and larger, older trees everywhere store the majority of carbon across the landscapes. Studies have shown that protecting our mature temperate rainforests from logging would store the equivalent of approximately 8 years of regional fossil fuel emissions. This is an incredibly valuable climate solution that I am very grateful the Commission has recognized in its Natural and Working Lands Proposal.

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Mr. David Robboy
Portland, OR 97214

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Ms. Carla Hervert
Eugene, OR 97404

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Mr. KENT RUDISILL
Portland, OR 97205

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

The temperate rainforests of the Pacific Northwest store even more carbon per acre than tropical rainforests, and larger, older trees everywhere store the majority of carbon across the landscapes. Studies have shown that protecting our mature temperate rainforests from logging would store the equivalent of approximately 8 years of regional fossil fuel emissions. This is an incredibly valuable climate solution that I am very grateful the Commission has recognized in its Natural and Working Lands Proposal.

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Ms Kimberley Lopez
Alsea, OR 97324

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

The temperate rainforests of the Pacific Northwest store even more carbon per acre than tropical rainforests, and larger, older trees everywhere store the majority of carbon across the landscapes. Studies have shown that protecting our mature temperate rainforests from logging would store the equivalent of approximately 8 years of regional fossil fuel emissions. This is an incredibly valuable climate solution that I am very grateful the Commission has recognized in its Natural and Working Lands Proposal.

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Ms. Paula Brown
Westfir, OR 97492

Dear Oregon Global Warming Commission,

Thank you for speaking up for the ONLY home we all have, this planet Earth, by setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth so much more standing.

The temperate rainforests of the Pacific Northwest store even more carbon per acre than tropical rainforests, and larger, older trees everywhere store the majority of carbon across the landscapes. Studies have shown that protecting our mature temperate rainforests from logging would store the equivalent of approximately 8 years of regional fossil fuel emissions. This is an incredibly valuable climate solution that I am very grateful the Commission has recognized in its Natural and Working Lands Proposal.

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Thank you for your leadership in developing this Proposal, my family and I strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Ms. P.A. Still
Lake Oswego, OR 97034

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

The temperate rainforests of the Pacific Northwest store even more carbon per acre than tropical rainforests, and larger, older trees everywhere store the majority of carbon across the landscapes. Studies have shown that protecting our mature temperate rainforests from logging would store the equivalent of approximately 8 years of regional fossil fuel emissions. This is an incredibly valuable climate solution that I am very grateful the Commission has recognized in its Natural and Working Lands Proposal.

I also strongly support the Proposal's recommendations to:

- *Establish a blue-ribbon panel to develop a strategic plan for how to adopt climate-smart forest management strategies in Oregon,
- *Establish a Natural and Working Lands Council to establish a baseline for GHG emissions reductions and carbon sequestration,
- *Adopt improvements in the Forest Practices Act to continue to improve climate and carbon sequestration outcomes in Oregon's forests

It is very important that Oregon's GHG emissions from the forestry sector be accurately measured and tracked, ideally as part of DEQ's Greenhouse Gas Sector-Based Inventory Data. Partnering with the FIA to collect better data is a good start, but that data needs to be housed in the same place as all of Oregon's other GHG emissions.

The Proposal should also include the recommendation that the climate impacts from post-fire logging be assessed as part of ODF's environmental assessment process. Salvage logging removes carbon that

would otherwise continue to be stored in dead trees on the landscape. Studies show that harvest-related emissions are far higher than emissions from wildfire (Law et al. 2018; Hudiburg et al. 2019). Logging burned forests also further degrades watersheds and hampers natural recovery.

Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Mrs. June Mohler Mitman
Newport, OR 97365

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

The temperate rainforests of the Pacific Northwest store even more carbon per acre than tropical rainforests, and larger, older trees everywhere store the majority of carbon across the landscapes. Studies have shown that protecting our mature temperate rainforests from logging would store the equivalent of approximately 8 years of regional fossil fuel emissions. This is an incredibly valuable climate solution that I am very grateful the Commission has recognized in its Natural and Working Lands Proposal.

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Ms K Heagen
Bend, OR 97702

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

The temperate rainforests of the Pacific Northwest store even more carbon per acre than tropical rainforests, and larger, older trees everywhere store the majority of carbon across the landscapes. Studies have shown that protecting our mature temperate rainforests from logging would store the equivalent of approximately 8 years of regional fossil fuel emissions. This is an incredibly valuable climate solution that I am very grateful the Commission has recognized in its Natural and Working Lands Proposal.

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Mr. Robert Brosius
Grants Pass, OR 97526

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing. Thank you! The trees are so much older than us.

The temperate rainforests of the Pacific Northwest store even more carbon per acre than tropical rainforests, and larger, older trees everywhere store the majority of carbon across the landscapes. Studies have shown that protecting our mature temperate rainforests from logging would store the equivalent of approximately 8 years of regional fossil fuel emissions. This is an incredibly valuable climate solution that I am very grateful the Commission has recognized in its Natural and Working Lands Proposal.

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Ms Abby Donovan
Eugene, OR 97402

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

The temperate rainforests of the Pacific Northwest store even more carbon per acre than tropical rainforests, and larger, older trees everywhere store the majority of carbon across the landscapes. Studies have shown that protecting our mature temperate rainforests from logging would store the equivalent of approximately 8 years of regional fossil fuel emissions. This is an incredibly valuable climate solution that I am very grateful the Commission has recognized in its Natural and Working Lands Proposal.

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Mr. Philip Ratcliff
Salem, OR 97302

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

The temperate rainforests of the Pacific Northwest store even more carbon per acre than tropical rainforests, and larger, older trees everywhere store the majority of carbon across the landscapes. Studies have shown that protecting our mature temperate rainforests from logging would store the equivalent of approximately 8 years of regional fossil fuel emissions. This is an incredibly valuable climate solution that I am very grateful the Commission has recognized in its Natural and Working Lands Proposal.

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Mrs. Danika Bevirt
Eugene, OR 97405

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Mr. Hector A Parayuelos
Portland, OR 97225

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Ms. Juliet Booth
Lake Oswego, OR 97035

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Mr. Michael Noack
Seal Rock, OR 97376

Dear Oregon Global Warming Commission,

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Mr. Edward Lizewski
Eugene, OR 97402

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

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Sincerely,
Ms. Melody Clarkson
Eugene, OR 97402

Dear Oregon Global Warming Commission,

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,

Mx. Katherine Anne Stansbury
Oregon City, OR 97045

Dear Oregon Global Warming Commission,

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Ms. Rebecca Haas
Portland, OR 97215

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Mr. R Duncan Kerst
Portland, OR 97214

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Ms. Monica Dostal
Eugene, OR 97405

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

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Sincerely,
Ms. Maureen O'Neal
Portland, OR 97223

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

The temperate rainforests of the Pacific Northwest store even more carbon per acre than tropical rainforests, and larger, older trees everywhere store the majority of carbon across the landscapes. Studies have shown that protecting our mature temperate rainforests from logging would store the equivalent of approximately 8 years of regional fossil fuel emissions. This is an incredibly valuable climate solution that I am very grateful the Commission has recognized in its Natural and Working Lands Proposal.

I also strongly support the Proposal's recommendations to:

*Establish a blue-ribbon panel to develop a strategic plan for how to adopt climate-smart forest management strategies in Oregon, *Establish a Natural and Working Lands Council to establish a baseline for GHG emissions reductions and carbon sequestration, *Adopt improvements in the Forest Practices Act to continue to improve climate and carbon sequestration outcomes in Oregon's forests

It is very important that Oregon's GHG emissions from the forestry sector be accurately measured and tracked, ideally as part of DEQ's Greenhouse Gas Sector-Based Inventory Data. Partnering with the FIA to collect better data is a good start, but that data needs to be housed in the same place as all of Oregon's other GHG emissions.

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Mr. Michael Higgins
Halfway, OR 97834

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Ms Lisa Brice
Wilsonville, OR 97070

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Ms. Kathryn Menard
Portland, OR 97210

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

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Sincerely,
Miss Emily Hayden
Keizer, OR 97303

Sent via form submission from [Keep Oregon Cool](#)

Name: Joseph Stenger

Email Address: joseph.stenger@gmail.com

Subject: ODF policy

Message: ODF needs to focus on our forests' role in carbon sequestration, rather than as commercial harvesting.

We need climate-smart policies that 1) lengthen the harvest cycle to grow more mature trees, 2) protect old growth groves, 3) promote forest biodiversity for sustainability and fire resistance.

How is the OGWC pushing ODF in the right direction on this issue?

Sincerely,
Joseph R Stenger MD
97211

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

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Sincerely,
Ms. Wren Wells
Portland, OR 97202

Dear Oregon Global Warming Commission,

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Sincerely,
Ms. Linda Farmer
Eugene, OR 97405

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

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Sincerely,
Mr. Cliff Lehman
Portland, OR 97214

Dear Oregon Global Warming Commission,

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Sincerely,
Mr. John Ferguson
Damascus, OR 97089

Dear Oregon Global Warming Commission,

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Sincerely,
Ms. Susan Heath
Albany, OR 97322

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Sincerely,
Mr. Steve Aydelott
Bend, OR 97701

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Sincerely,
Ms. Joanie Beldin
Port Angeles, WA 98362

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Sincerely,
Ms. Ellen Weeks
Portland, OR 97202

Dear Oregon Global Warming Commission,

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Sincerely,
Mr. Joseph Tremonti
Joseph, OR 97846

Dear Oregon Global Warming Commission,

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Sincerely,
Ms. Mika Gentili-Lloyd
Hillsboro, OR 97124

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Sincerely,
Mr. David Steinbrecher
Portland, OR 97201

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Sincerely,
Mr. Thomas Meek
Salem, OR 97305

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

The temperate rainforests of the Pacific Northwest store even more carbon per acre than tropical rainforests, and larger, older trees everywhere store the majority of carbon across the landscapes. Studies have shown that protecting our mature temperate rainforests from logging would store the equivalent of approximately 8 years of regional fossil fuel emissions. This is an incredibly valuable climate solution that I am very grateful the Commission has recognized in its Natural and Working Lands Proposal.

I also strongly support the Proposal's recommendations to:

- *Establish a blue-ribbon panel to develop a strategic plan for how to adopt climate-smart forest management strategies in Oregon,
- *Establish a Natural and Working Lands Council to establish a baseline for GHG emissions reductions and carbon sequestration,
- *Adopt improvements in the Forest Practices Act to continue to improve climate and carbon sequestration outcomes in Oregon's forests

It is very important that Oregon's GHG emissions from the forestry sector be accurately measured and tracked, ideally as part of DEQ's Greenhouse Gas Sector-Based Inventory Data. Partnering with the FIA to collect better data is a good start, but that data needs to be housed in the same place as all of Oregon's other GHG emissions.

The Proposal should also include the recommendation that the climate impacts from post-fire logging be assessed as part of ODF's environmental assessment process. Salvage logging removes carbon that would otherwise continue to be stored in dead trees on the landscape. Studies show that harvest-related emissions are far higher than emissions from wildfire (Law et al. 2018; Hudiburg et al. 2019). Logging burned forests also further degrades watersheds and hampers natural recovery.

Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Mrs. Tamara Lesh
Bay City, OR 97107

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

The temperate rainforests of the Pacific Northwest store even more carbon per acre than tropical rainforests, and larger, older trees everywhere store the majority of carbon across the landscapes. Studies have shown that protecting our mature temperate rainforests from logging would store the equivalent of approximately 8 years of regional fossil fuel emissions. This is an incredibly valuable climate solution that I am very grateful the Commission has recognized in its Natural and Working Lands Proposal.

I also strongly support the Proposal's recommendations to:

*Establish a blue-ribbon panel to develop a strategic plan for how to adopt climate-smart forest management strategies in Oregon, *Establish a Natural and Working Lands Council to establish a baseline for GHG emissions reductions and carbon sequestration, *Adopt improvements in the Forest Practices Act to continue to improve climate and carbon sequestration outcomes in Oregon's forests

It is very important that Oregon's GHG emissions from the forestry sector be accurately measured and tracked, ideally as part of DEQ's Greenhouse Gas Sector-Based Inventory Data. Partnering with the FIA to collect better data is a good start, but that data needs to be housed in the same place as all of Oregon's other GHG emissions.

The Proposal should also include the recommendation that the climate impacts from post-fire logging be assessed as part of ODF's environmental assessment process. Salvage logging removes carbon that would otherwise continue to be stored in dead trees on the landscape. Studies show that harvest-related emissions are far higher than emissions from wildfire (Law et al. 2018; Hudiburg et al. 2019). Logging burned forests also further degrades watersheds and hampers natural recovery.

Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Mrs. Elaine Nelson
Aloha, OR 97078

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

The temperate rainforests of the Pacific Northwest store even more carbon per acre than tropical rainforests, and larger, older trees everywhere store the majority of carbon across the landscapes. Studies have shown that protecting our mature temperate rainforests from logging would store the equivalent of approximately 8 years of regional fossil fuel emissions. This is an incredibly valuable climate solution that I am very grateful the Commission has recognized in its Natural and Working Lands Proposal.

I also strongly support the Proposal's recommendations to:

*Establish a blue-ribbon panel to develop a strategic plan for how to adopt climate-smart forest management strategies in Oregon, *Establish a Natural and Working Lands Council to establish a baseline for GHG emissions reductions and carbon sequestration, *Adopt improvements in the Forest Practices Act to continue to improve climate and carbon sequestration outcomes in Oregon's forests

It is very important that Oregon's GHG emissions from the forestry sector be accurately measured and tracked, ideally as part of DEQ's Greenhouse Gas Sector-Based Inventory Data. Partnering with the FIA to collect better data is a good start, but that data needs to be housed in the same place as all of Oregon's other GHG emissions.

The Proposal should also include the recommendation that the climate impacts from post-fire logging be assessed as part of ODF's environmental assessment process. Salvage logging removes carbon that would otherwise continue to be stored in dead trees on the landscape. Studies show that harvest-related emissions are far higher than emissions from wildfire (Law et al. 2018; Hudiburg et al. 2019). Logging burned forests also further degrades watersheds and hampers natural recovery.

Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Ms. Tanja Olson
Portland, OR 97214

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a

central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

The temperate rainforests of the Pacific Northwest store even more carbon per acre than tropical rainforests, and larger, older trees everywhere store the majority of carbon across the landscapes. Studies have shown that protecting our mature temperate rainforests from logging would store the equivalent of approximately 8 years of regional fossil fuel emissions. This is an incredibly valuable climate solution that I am very grateful the Commission has recognized in its Natural and Working Lands Proposal.

I also strongly support the Proposal's recommendations to:

- *Establish a blue-ribbon panel to develop a strategic plan for how to adopt climate-smart forest management strategies in Oregon,
- *Establish a Natural and Working Lands Council to establish a baseline for GHG emissions reductions and carbon sequestration,
- *Adopt improvements in the Forest Practices Act to continue to improve climate and carbon sequestration outcomes in Oregon's forests

It is very important that Oregon's GHG emissions from the forestry sector be accurately measured and tracked, ideally as part of DEQ's Greenhouse Gas Sector-Based Inventory Data. Partnering with the FIA to collect better data is a good start, but that data needs to be housed in the same place as all of Oregon's other GHG emissions.

The Proposal should also include the recommendation that the climate impacts from post-fire logging be assessed as part of ODF's environmental assessment process. Salvage logging removes carbon that would otherwise continue to be stored in dead trees on the landscape. Studies show that harvest-related emissions are far higher than emissions from wildfire (Law et al. 2018; Hudiburg et al. 2019). Logging burned forests also further degrades watersheds and hampers natural recovery.

Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Mr. Scott Crockett
Florence, OR 97439

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

The temperate rainforests of the Pacific Northwest store even more carbon per acre than tropical rainforests, and larger, older trees everywhere store the majority of carbon across the landscapes. Studies have shown that protecting our mature temperate rainforests from logging would store the equivalent of approximately 8 years of regional fossil fuel emissions. This is an incredibly valuable

climate solution that I am very grateful the Commission has recognized in its Natural and Working Lands Proposal.

I also strongly support the Proposal's recommendations to:

*Establish a blue-ribbon panel to develop a strategic plan for how to adopt climate-smart forest management strategies in Oregon, *Establish a Natural and Working Lands Council to establish a baseline for GHG emissions reductions and carbon sequestration, *Adopt improvements in the Forest Practices Act to continue to improve climate and carbon sequestration outcomes in Oregon's forests

It is very important that Oregon's GHG emissions from the forestry sector be accurately measured and tracked, ideally as part of DEQ's Greenhouse Gas Sector-Based Inventory Data. Partnering with the FIA to collect better data is a good start, but that data needs to be housed in the same place as all of Oregon's other GHG emissions.

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Miss Mali Fischer-Levine
Portland, OR 97216

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

The temperate rainforests of the Pacific Northwest store even more carbon per acre than tropical rainforests, and larger, older trees everywhere store the majority of carbon across the landscapes. Studies have shown that protecting our mature temperate rainforests from logging would store the equivalent of approximately 8 years of regional fossil fuel emissions. This is an incredibly valuable climate solution that I am very grateful the Commission has recognized in its Natural and Working Lands Proposal.

I also strongly support the Proposal's recommendations to:

*Establish a blue-ribbon panel to develop a strategic plan for how to adopt climate-smart forest management strategies in Oregon, *Establish a Natural and Working Lands Council to establish a

baseline for GHG emissions reductions and carbon sequestration, *Adopt improvements in the Forest Practices Act to continue to improve climate and carbon sequestration outcomes in Oregon's forests

It is very important that Oregon's GHG emissions from the forestry sector be accurately measured and tracked, ideally as part of DEQ's Greenhouse Gas Sector-Based Inventory Data. Partnering with the FIA to collect better data is a good start, but that data needs to be housed in the same place as all of Oregon's other GHG emissions.

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Ms. Amy Cairns
Oregon City, OR 97045

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

The temperate rainforests of the Pacific Northwest store even more carbon per acre than tropical rainforests, and larger, older trees everywhere store the majority of carbon across the landscapes. Studies have shown that protecting our mature temperate rainforests from logging would store the equivalent of approximately 8 years of regional fossil fuel emissions. This is an incredibly valuable climate solution that I am very grateful the Commission has recognized in its Natural and Working Lands Proposal.

I also strongly support the Proposal's recommendations to:

*Establish a blue-ribbon panel to develop a strategic plan for how to adopt climate-smart forest management strategies in Oregon, *Establish a Natural and Working Lands Council to establish a baseline for GHG emissions reductions and carbon sequestration, *Adopt improvements in the Forest Practices Act to continue to improve climate and carbon sequestration outcomes in Oregon's forests

It is very important that Oregon's GHG emissions from the forestry sector be accurately measured and tracked, ideally as part of DEQ's Greenhouse Gas Sector-Based Inventory Data. Partnering with the FIA to collect better data is a good start, but that data needs to be housed in the same place as all of Oregon's other GHG emissions.

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Ms Maia Hixon
Portland, OR 97213

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

The temperate rainforests of the Pacific Northwest store even more carbon per acre than tropical rainforests, and larger, older trees everywhere store the majority of carbon across the landscapes. Studies have shown that protecting our mature temperate rainforests from logging would store the equivalent of approximately 8 years of regional fossil fuel emissions. This is an incredibly valuable climate solution that I am very grateful the Commission has recognized in its Natural and Working Lands Proposal.

I also strongly support the Proposal's recommendations to:

*Establish a blue-ribbon panel to develop a strategic plan for how to adopt climate-smart forest management strategies in Oregon, *Establish a Natural and Working Lands Council to establish a baseline for GHG emissions reductions and carbon sequestration, *Adopt improvements in the Forest Practices Act to continue to improve climate and carbon sequestration outcomes in Oregon's forests

It is very important that Oregon's GHG emissions from the forestry sector be accurately measured and tracked, ideally as part of DEQ's Greenhouse Gas Sector-Based Inventory Data. Partnering with the FIA to collect better data is a good start, but that data needs to be housed in the same place as all of Oregon's other GHG emissions.

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Ms. Lorraine Boose
Eugene, OR 97402

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

The temperate rainforests of the Pacific Northwest store even more carbon per acre than tropical rainforests, and larger, older trees everywhere store the majority of carbon across the landscapes. Studies have shown that protecting our mature temperate rainforests from logging would store the equivalent of approximately 8 years of regional fossil fuel emissions. This is an incredibly valuable climate solution that I am very grateful the Commission has recognized in its Natural and Working Lands Proposal.

I also strongly support the Proposal's recommendations to:

*Establish a blue-ribbon panel to develop a strategic plan for how to adopt climate-smart forest management strategies in Oregon, *Establish a Natural and Working Lands Council to establish a baseline for GHG emissions reductions and carbon sequestration, *Adopt improvements in the Forest Practices Act to continue to improve climate and carbon sequestration outcomes in Oregon's forests

It is very important that Oregon's GHG emissions from the forestry sector be accurately measured and tracked, ideally as part of DEQ's Greenhouse Gas Sector-Based Inventory Data. Partnering with the FIA to collect better data is a good start, but that data needs to be housed in the same place as all of Oregon's other GHG emissions.

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Ms. Kristen Swanson
Springfield, OR 97477

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

The temperate rainforests of the Pacific Northwest store even more carbon per acre than tropical rainforests, and larger, older trees everywhere store the majority of carbon across the landscapes. Studies have shown that protecting our mature temperate rainforests from logging would store the equivalent of approximately 8 years of regional fossil fuel emissions. This is an incredibly valuable climate solution that I am very grateful the Commission has recognized in its Natural and Working Lands Proposal.

I also strongly support the Proposal's recommendations to:

*Establish a blue-ribbon panel to develop a strategic plan for how to adopt climate-smart forest management strategies in Oregon, *Establish a Natural and Working Lands Council to establish a baseline for GHG emissions reductions and carbon sequestration, *Adopt improvements in the Forest Practices Act to continue to improve climate and carbon sequestration outcomes in Oregon's forests

It is very important that Oregon's GHG emissions from the forestry sector be accurately measured and tracked, ideally as part of DEQ's Greenhouse Gas Sector-Based Inventory Data. Partnering with the FIA to collect better data is a good start, but that data needs to be housed in the same place as all of Oregon's other GHG emissions.

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Mr. Phil Miotto
Portland, OR 97219

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a

central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

The temperate rainforests of the Pacific Northwest store even more carbon per acre than tropical rainforests, and larger, older trees everywhere store the majority of carbon across the landscapes. Studies have shown that protecting our mature temperate rainforests from logging would store the equivalent of approximately 8 years of regional fossil fuel emissions. This is an incredibly valuable climate solution that I am very grateful the Commission has recognized in its Natural and Working Lands Proposal.

I also strongly support the Proposal's recommendations to:

- *Establish a blue-ribbon panel to develop a strategic plan for how to adopt climate-smart forest management strategies in Oregon,
- *Establish a Natural and Working Lands Council to establish a baseline for GHG emissions reductions and carbon sequestration,
- *Adopt improvements in the Forest Practices Act to continue to improve climate and carbon sequestration outcomes in Oregon's forests

It is very important that Oregon's GHG emissions from the forestry sector be accurately measured and tracked, ideally as part of DEQ's Greenhouse Gas Sector-Based Inventory Data. Partnering with the FIA to collect better data is a good start, but that data needs to be housed in the same place as all of Oregon's other GHG emissions.

The Proposal should also include the recommendation that the climate impacts from post-fire logging be assessed as part of ODF's environmental assessment process. Salvage logging removes carbon that would otherwise continue to be stored in dead trees on the landscape. Studies show that harvest-related emissions are far higher than emissions from wildfire (Law et al. 2018; Hudiburg et al. 2019). Logging burned forests also further degrades watersheds and hampers natural recovery.

Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Ms. Ann Nowicki
Eugene, OR 97408

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

The temperate rainforests of the Pacific Northwest store even more carbon per acre than tropical rainforests, and larger, older trees everywhere store the majority of carbon across the landscapes. Studies have shown that protecting our mature temperate rainforests from logging would store the equivalent of approximately 8 years of regional fossil fuel emissions. This is an incredibly valuable

climate solution that I am very grateful the Commission has recognized in its Natural and Working Lands Proposal.

I also strongly support the Proposal's recommendations to:

*Establish a blue-ribbon panel to develop a strategic plan for how to adopt climate-smart forest management strategies in Oregon, *Establish a Natural and Working Lands Council to establish a baseline for GHG emissions reductions and carbon sequestration, *Adopt improvements in the Forest Practices Act to continue to improve climate and carbon sequestration outcomes in Oregon's forests

It is very important that Oregon's GHG emissions from the forestry sector be accurately measured and tracked, ideally as part of DEQ's Greenhouse Gas Sector-Based Inventory Data. Partnering with the FIA to collect better data is a good start, but that data needs to be housed in the same place as all of Oregon's other GHG emissions.

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Ms. Rachel Heath
Portland, OR 97214

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Our old forests are worth more standing.

The temperate rainforests of the Pacific Northwest store vast amounts of carbon, and larger, older trees everywhere store the majority of carbon across the landscapes. As you know, protecting our mature temperate rainforests from logging is an extremely valuable climate solution and I am very grateful the Commission has recognized this fact in its Natural and Working Lands Proposal.

I also strongly support the Proposal's recommendations to:

*Establish a blue-ribbon panel to develop a strategic plan for how to adopt climate-smart forest management strategies in Oregon, *Establish a Natural and Working Lands Council to establish a baseline for GHG emissions reductions and carbon sequestration, *Adopt improvements in the Forest Practices Act to continue to improve climate and carbon sequestration outcomes in Oregon's forests

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would otherwise continue to be stored in dead trees on the landscape. Studies show that harvest-related emissions are far higher than emissions from wildfire (Law et al. 2018; Hudiburg et al. 2019). Logging burned forests also further degrades watersheds and hampers natural recovery.

Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Dr. Trudie Atkinson
Springfield, OR 97477

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

The temperate rainforests of the Pacific Northwest store even more carbon per acre than tropical rainforests, and larger, older trees everywhere store the majority of carbon across the landscapes. Studies have shown that protecting our mature temperate rainforests from logging would store the equivalent of approximately 8 years of regional fossil fuel emissions. This is an incredibly valuable climate solution that I am very grateful the Commission has recognized in its Natural and Working Lands Proposal.

I also strongly support the Proposal's recommendations to:

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Ms Barbara Vick
Gresham, OR 97080

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

The temperate rainforests of the Pacific Northwest store even more carbon per acre than tropical rainforests, and larger, older trees everywhere store the majority of carbon across the landscapes. Studies have shown that protecting our mature temperate rainforests from logging would store the equivalent of approximately 8 years of regional fossil fuel emissions. This is an incredibly valuable climate solution that I am very grateful the Commission has recognized in its Natural and Working Lands Proposal.

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Ms. Karol Dietrich
Corbett, OR 97019

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

The temperate rainforests of the Pacific Northwest store even more carbon per acre than tropical rainforests, and larger, older trees everywhere store the majority of carbon across the landscapes. Studies have shown that protecting our mature temperate rainforests from logging would store the equivalent of approximately 8 years of regional fossil fuel emissions. This is an incredibly valuable climate solution that I am very grateful the Commission has recognized in its Natural and Working Lands Proposal.

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Mr. Alan Bartl
Coos Bay, OR 97420

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

The temperate rainforests of the Pacific Northwest store even more carbon per acre than tropical rainforests, and larger, older trees everywhere store the majority of carbon across the landscapes. Studies have shown that protecting our mature temperate rainforests from logging would store the equivalent of approximately 8 years of regional fossil fuel emissions. This is an incredibly valuable climate solution that I am very grateful the Commission has recognized in its Natural and Working Lands Proposal.

I also strongly support the Proposal's recommendations to:

*Establish a blue-ribbon panel to develop a strategic plan for how to adopt climate-smart forest management strategies in Oregon, *Establish a Natural and Working Lands Council to establish a baseline for GHG emissions reductions and carbon sequestration, *Adopt improvements in the Forest Practices Act to continue to improve climate and carbon sequestration outcomes in Oregon's forests

It is very important that Oregon's GHG emissions from the forestry sector be accurately measured and tracked, ideally as part of DEQ's Greenhouse Gas Sector-Based Inventory Data. Partnering with the FIA to collect better data is a good start, but that data needs to be housed in the same place as all of Oregon's other GHG emissions.

The Proposal should also include the recommendation that the climate impacts from post-fire logging be assessed as part of ODF's environmental assessment process. Salvage logging removes carbon that would otherwise continue to be stored in dead trees on the landscape. Studies show that harvest-related emissions are far higher than emissions from wildfire (Law et al. 2018; Hudiburg et al. 2019). Logging burned forests also further degrades watersheds and hampers natural recovery.

Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Mr. Adeel Altaf
Portland, OR 97229

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

The temperate rainforests of the Pacific Northwest store even more carbon per acre than tropical rainforests, and larger, older trees everywhere store the majority of carbon across the landscapes. Studies have shown that protecting our mature temperate rainforests from logging would store the equivalent of approximately 8 years of regional fossil fuel emissions. This is an incredibly valuable climate solution that I am very grateful the Commission has recognized in its Natural and Working Lands Proposal.

I also strongly support the Proposal's recommendations to:

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Mr. Jim Coverdell
Eugene, OR 97404

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

The temperate rainforests of the Pacific Northwest store even more carbon per acre than tropical rainforests, and larger, older trees everywhere store the majority of carbon across the landscapes. Studies have shown that protecting our mature temperate rainforests from logging would store the equivalent of approximately 8 years of regional fossil fuel emissions. This is an incredibly valuable climate solution that I am very grateful the Commission has recognized in its Natural and Working Lands Proposal.

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Mr. Jules Moritz
Corvallis, OR 97330

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

The temperate rainforests of the Pacific Northwest store even more carbon per acre than tropical rainforests, and larger, older trees everywhere store the majority of carbon across the landscapes. Studies have shown that protecting our mature temperate rainforests from logging would store the equivalent of approximately 8 years of regional fossil fuel emissions. This is an incredibly valuable climate solution that I am very grateful the Commission has recognized in its Natural and Working Lands Proposal.

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Ms Kay Hagen
Ashland, OR 97520

Dear Oregon Global Warming Commission,

Thank you for recognizing that the lumber industry has for decades put harmful harvest practices over forest health.

They don't care about anything but profits for shareholders, and it's an abomination what we are left with.

The forest fires we are experiencing right now are proof that what they are doing is destructive and dangerous, yet they are currently running ads on KEZI in Eugene trying to convince the public that it's a good idea to remove all the burned trees from our forests, when exactly the opposite is true.

I am a volunteer with the Master Gardener program, and the more I learn about soil health, monoculture agriculture, water health, and how all these are inter-connected and vital to a verdant planet, the more I see why they must be stopped.

Keep it up - we need you!

Sincerely,
Mr Ted Chudy
Eugene, OR 97404

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

The temperate rainforests of the Pacific Northwest store even more carbon per acre than tropical rainforests, and larger, older trees everywhere store the majority of carbon across the landscapes. Studies have shown that protecting our mature temperate rainforests from logging would store the equivalent of approximately 8 years of regional fossil fuel emissions. This is an incredibly valuable climate solution that I am very grateful the Commission has recognized in its Natural and Working Lands Proposal.

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Mr. Jim Pruet
Ashland, OR 97520

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Ms. Cynthia Kurtz
Bay City, OR 97107

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

The temperate rainforests of the Pacific Northwest store even more carbon per acre than tropical rainforests, and larger, older trees everywhere store the majority of carbon across the landscapes. Studies have shown that protecting our mature temperate rainforests from logging would store the equivalent of approximately 8 years of regional fossil fuel emissions. This is an incredibly valuable climate solution that I am very grateful the Commission has recognized in its Natural and Working Lands Proposal.

I also strongly support the Proposal's recommendations to:

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would otherwise continue to be stored in dead trees on the landscape. Studies show that harvest-related emissions are far higher than emissions from wildfire (Law et al. 2018; Hudiburg et al. 2019). Logging burned forests also further degrades watersheds and hampers natural recovery.

Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Ms Susan LaTour
Salem, OR 97306

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

The temperate rainforests of the Pacific Northwest store even more carbon per acre than tropical rainforests, and larger, older trees everywhere store the majority of carbon across the landscapes. Studies have shown that protecting our mature temperate rainforests from logging would store the equivalent of approximately 8 years of regional fossil fuel emissions. This is an incredibly valuable climate solution that I am very grateful the Commission has recognized in its Natural and Working Lands Proposal.

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Ms. Marnie Frank
Portland, OR 97202

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Better do something soon while we still have a forest.

Sincerely,
Ms. Susanna Askins
Portland, OR 97230

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Ms. Sara Pritt
Eugene, OR 97401

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a

central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Mr. Roger Siegner
Portland, OR 97219

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

The temperate rainforests of the Pacific Northwest store even more carbon per acre than tropical rainforests, and larger, older trees everywhere store the majority of carbon across the landscapes. Studies have shown that protecting our mature temperate rainforests from logging would store the equivalent of approximately 8 years of regional fossil fuel emissions. This is an incredibly valuable

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Dr. Nancy Pilgrim
Portland, OR 97219

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Mr. Pradeep Sivakumar
Hillsboro, OR 97124

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Mr. John Anderson
Garibaldi, OR 97118

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Ms. Nancy Gronowski
Lake Oswego, OR 97034

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Dr. David Harrison
Salem, OR 97301

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

The temperate rainforests of the Pacific Northwest store even more carbon per acre than tropical rainforests, and larger, older trees everywhere store the majority of carbon across the landscapes. Studies have shown that protecting our mature temperate rainforests from logging would store the equivalent of approximately 8 years of regional fossil fuel emissions. This is an incredibly valuable climate solution that I am very grateful the Commission has recognized in its Natural and Working Lands Proposal.

I also strongly support the Proposal's recommendations to:

*Establish a blue-ribbon panel to develop a strategic plan for how to adopt climate-smart forest management strategies in Oregon, *Establish a Natural and Working Lands Council to establish a baseline for GHG emissions reductions and carbon sequestration, *Adopt improvements in the Forest Practices Act to continue to improve climate and carbon sequestration outcomes in Oregon's forests

It is very important that Oregon's GHG emissions from the forestry sector be accurately measured and tracked, ideally as part of DEQ's Greenhouse Gas Sector-Based Inventory Data. Partnering with the FIA to collect better data is a good start, but that data needs to be housed in the same place as all of Oregon's other GHG emissions.

The Proposal should also include the recommendation that the climate impacts from post-fire logging be assessed as part of ODF's environmental assessment process. Salvage logging removes carbon that would otherwise continue to be stored in dead trees on the landscape. Studies show that harvest-related emissions are far higher than emissions from wildfire (Law et al. 2018; Hudiburg et al. 2019). Logging burned forests also further degrades watersheds and hampers natural recovery.

Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Ms. Stephanie Tidwell
Eugene, OR 97404

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a

central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

The temperate rainforests of the Pacific Northwest store even more carbon per acre than tropical rainforests, and larger, older trees everywhere store the majority of carbon across the landscapes. Studies have shown that protecting our mature temperate rainforests from logging would store the equivalent of approximately 8 years of regional fossil fuel emissions. This is an incredibly valuable climate solution that I am very grateful the Commission has recognized in its Natural and Working Lands Proposal.

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It is very important that Oregon's GHG emissions from the forestry sector be accurately measured and tracked, ideally as part of DEQ's Greenhouse Gas Sector-Based Inventory Data. Partnering with the FIA to collect better data is a good start, but that data needs to be housed in the same place as all of Oregon's other GHG emissions.

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Mr. Randy Harrison
Eugene, OR 97402

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

The temperate rainforests of the Pacific Northwest store even more carbon per acre than tropical rainforests, and larger, older trees everywhere store the majority of carbon across the landscapes. Studies have shown that protecting our mature temperate rainforests from logging would store the equivalent of approximately 8 years of regional fossil fuel emissions. This is an incredibly valuable

climate solution that I am very grateful the Commission has recognized in its Natural and Working Lands Proposal.

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Mrs. Adelina Jaudal Jaudal
Brussel, OR 32089

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

The temperate rainforests of the Pacific Northwest store even more carbon per acre than tropical rainforests, and larger, older trees everywhere store the majority of carbon across the landscapes. Studies have shown that protecting our mature temperate rainforests from logging would store the equivalent of approximately 8 years of regional fossil fuel emissions. This is an incredibly valuable climate solution that I am very grateful the Commission has recognized in its Natural and Working Lands Proposal.

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Ms. sally schoolmaster
Portland, OR 97213

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

The temperate rainforests of the Pacific Northwest store even more carbon per acre than tropical rainforests, and larger, older trees everywhere store the majority of carbon across the landscapes. Studies have shown that protecting our mature temperate rainforests from logging would store the equivalent of approximately 8 years of regional fossil fuel emissions. This is an incredibly valuable climate solution that I am very grateful the Commission has recognized in its Natural and Working Lands Proposal.

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Mr. John Andersen
Elmira, OR 97437

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

The temperate rainforests of the Pacific Northwest store even more carbon per acre than tropical rainforests, and larger, older trees everywhere store the majority of carbon across the landscapes. Studies have shown that protecting our mature temperate rainforests from logging would store the equivalent of approximately 8 years of regional fossil fuel emissions. This is an incredibly valuable climate solution that I am very grateful the Commission has recognized in its Natural and Working Lands Proposal.

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Ms. kim davis
Salem, OR 97306

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

The temperate rainforests of the Pacific Northwest store even more carbon per acre than tropical rainforests, and larger, older trees everywhere store the majority of carbon across the landscapes. Studies have shown that protecting our mature temperate rainforests from logging would store the equivalent of approximately 8 years of regional fossil fuel emissions. This is an incredibly valuable climate solution that I am very grateful the Commission has recognized in its Natural and Working Lands Proposal.

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Mr. Ian Shelley
Portland, OR 97225

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

The temperate rainforests of the Pacific Northwest store even more carbon per acre than tropical rainforests, and larger, older trees everywhere store the majority of carbon across the landscapes. Studies have shown that protecting our mature temperate rainforests from logging would store the equivalent of approximately 8 years of regional fossil fuel emissions. This is an incredibly valuable climate solution that I am very grateful the Commission has recognized in its Natural and Working Lands Proposal.

I also strongly support the Proposal's recommendations to:

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Ms. K. Whitehead
Portland, OR 97202

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a

central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Dr. Pedro Tai
Mount Hood Parkdale, OR 97041

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises. Please follow through on your intent and don't let industry politics or industry "science" sway you from your/our goals.

Sincerely,
Ms Sally White
Salem, OR 97304

Dear Oregon Global Warming Commission,

I appreciate your efforts to protect Oregon's forests. Reversing the terrible impacts of climate change is so important to my family and community. Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

The temperate rainforests of the Pacific Northwest store even more carbon per acre than tropical rainforests, and larger, older trees everywhere store the majority of carbon across the landscapes. Studies have shown that protecting our mature temperate rainforests from logging would store the equivalent of approximately 8 years of regional fossil fuel emissions. This is an incredibly valuable climate solution that I am very grateful the Commission has recognized in its Natural and Working Lands Proposal.

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Ms. Beth Flake
Hood River, OR 97031

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Ms. Mary Sharon Moore
Eugene, OR 97401

Dear Oregon Global Warming Commission,

Thank you for recommending longer logging rotations and other protections for mature and old growth forests. Carbon sequestration is vitally important and our NW Coastal Range stores even more carbon per acre than tropical rainforests; at least it did before all the patchwork of clearcutting occurred. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy. These old forests provide so many benefits; they are priceless. I am very grateful the Commission has recognized this fact in its Natural and Working Lands Proposal.

Thank you for your leadership in developing this Proposal. I strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Ms. Diane Monico
Nehalem, OR 97131

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Ms. Shannon Hunter
Portland, OR 97227

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Dr. Alicia Liang
Portland, OR 97214

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Mx. K West
Redmond, OR 97756

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

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- *Adopt improvements in the Forest Practices Act to continue to improve climate and carbon sequestration outcomes in Oregon's forests

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The Proposal should also include the recommendation that the climate impacts from post-fire logging be assessed as part of ODF's environmental assessment process. Salvage logging removes carbon that would otherwise continue to be stored in dead trees on the landscape. Studies show that harvest-related emissions are far higher than emissions from wildfire (Law et al. 2018; Hudiburg et al. 2019). Logging burned forests also further degrades watersheds and hampers natural recovery.

Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Mr Travis Allen
Eugene, OR 97405

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

The temperate rainforests of the Pacific Northwest store even more carbon per acre than tropical rainforests, and larger, older trees everywhere store the majority of carbon across the landscapes. Studies have shown that protecting our mature temperate rainforests from logging would store the equivalent of approximately 8 years of regional fossil fuel emissions. This is an incredibly valuable climate solution that I am very grateful the Commission has recognized in its Natural and Working Lands Proposal.

I also strongly support the Proposal's recommendations to:

*Establish a blue-ribbon panel to develop a strategic plan for how to adopt climate-smart forest management strategies in Oregon, *Establish a Natural and Working Lands Council to establish a baseline for GHG emissions reductions and carbon sequestration, *Adopt improvements in the Forest Practices Act to continue to improve climate and carbon sequestration outcomes in Oregon's forests

It is very important that Oregon's GHG emissions from the forestry sector be accurately measured and tracked, ideally as part of DEQ's Greenhouse Gas Sector-Based Inventory Data. Partnering with the FIA to collect better data is a good start, but that data needs to be housed in the same place as all of Oregon's other GHG emissions.

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Ms. Carol Scherer Scherer
Eugene, OR 97405

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

The temperate rainforests of the Pacific Northwest store even more carbon per acre than tropical rainforests, and larger, older trees everywhere store the majority of carbon across the landscapes. Studies have shown that protecting our mature temperate rainforests from logging would store the equivalent of approximately 8 years of regional fossil fuel emissions. This is an incredibly valuable climate solution that I am very grateful the Commission has recognized in its Natural and Working Lands Proposal.

I also strongly support the Proposal's recommendations to:

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Ms Jan Stone
Forest Grove, OR 97116

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a

central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

The temperate rainforests of the Pacific Northwest store even more carbon per acre than tropical rainforests, and larger, older trees everywhere store the majority of carbon across the landscapes. Studies have shown that protecting our mature temperate rainforests from logging would store the equivalent of approximately 8 years of regional fossil fuel emissions. This is an incredibly valuable climate solution that I am very grateful the Commission has recognized in its Natural and Working Lands Proposal.

I also strongly support the Proposal's recommendations to:

- *Establish a blue-ribbon panel to develop a strategic plan for how to adopt climate-smart forest management strategies in Oregon,
- *Establish a Natural and Working Lands Council to establish a baseline for GHG emissions reductions and carbon sequestration,
- *Adopt improvements in the Forest Practices Act to continue to improve climate and carbon sequestration outcomes in Oregon's forests

It is very important that Oregon's GHG emissions from the forestry sector be accurately measured and tracked, ideally as part of DEQ's Greenhouse Gas Sector-Based Inventory Data. Partnering with the FIA to collect better data is a good start, but that data needs to be housed in the same place as all of Oregon's other GHG emissions.

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Ms Toni Pearce
Chiloquin, OR 97624

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

The temperate rainforests of the Pacific Northwest store even more carbon per acre than tropical rainforests, and larger, older trees everywhere store the majority of carbon across the landscapes. Studies have shown that protecting our mature temperate rainforests from logging would store the equivalent of approximately 8 years of regional fossil fuel emissions. This is an incredibly valuable

climate solution that I am very grateful the Commission has recognized in its Natural and Working Lands Proposal.

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It is very important that Oregon's GHG emissions from the forestry sector be accurately measured and tracked, ideally as part of DEQ's Greenhouse Gas Sector-Based Inventory Data. Partnering with the FIA to collect better data is a good start, but that data needs to be housed in the same place as all of Oregon's other GHG emissions.

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Ms. Mary Englert
Portland, OR 97202

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

The temperate rainforests of the Pacific Northwest store even more carbon per acre than tropical rainforests, and larger, older trees everywhere store the majority of carbon across the landscapes. Studies have shown that protecting our mature temperate rainforests from logging would store the equivalent of approximately 8 years of regional fossil fuel emissions. This is an incredibly valuable climate solution that I am very grateful the Commission has recognized in its Natural and Working Lands Proposal.

I also strongly support the Proposal's recommendations to:

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Dr. Richard Viola
Portland, OR 97205

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

The temperate rainforests of the Pacific Northwest store even more carbon per acre than tropical rainforests, and larger, older trees everywhere store the majority of carbon across the landscapes. Studies have shown that protecting our mature temperate rainforests from logging would store the equivalent of approximately 8 years of regional fossil fuel emissions. This is an incredibly valuable climate solution that I am very grateful the Commission has recognized in its Natural and Working Lands Proposal.

I also strongly support the Proposal's recommendations to:

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Mrs. Gail Battaglia
Jacksonville, OR 97530

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

The temperate rainforests of the Pacific Northwest store even more carbon per acre than tropical rainforests, and larger, older trees everywhere store the majority of carbon across the landscapes. Studies have shown that protecting our mature temperate rainforests from logging would store the equivalent of approximately 8 years of regional fossil fuel emissions. This is an incredibly valuable climate solution that I am very grateful the Commission has recognized in its Natural and Working Lands Proposal.

I also strongly support the Proposal's recommendations to:

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- *Adopt improvements in the Forest Practices Act to continue to improve climate and carbon sequestration outcomes in Oregon's forests

It is very important that Oregon's GHG emissions from the forestry sector be accurately measured and tracked, ideally as part of DEQ's Greenhouse Gas Sector-Based Inventory Data. Partnering with the FIA to collect better data is a good start, but that data needs to be housed in the same place as all of Oregon's other GHG emissions.

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Ms. Barbara Bernstein
Portland, OR 97202

Dear Oregon Global Warming Commission,

As a native Oregonian I love a walk in the woods or a week long backpack in the forests!

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

The temperate rainforests of the Pacific Northwest store even more carbon per acre than tropical rainforests, and larger, older trees everywhere store the majority of carbon across the landscapes. Studies have shown that protecting our mature temperate rainforests from logging would store the equivalent of approximately 8 years of regional fossil fuel emissions. This is an incredibly valuable climate solution that I am very grateful the Commission has recognized in its Natural and Working Lands Proposal.

I also strongly support the Proposal's recommendations to:

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Dr. Amy Rossman

Corvallis, OR 97330

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

The temperate rainforests of the Pacific Northwest store even more carbon per acre than tropical rainforests, and larger, older trees everywhere store the majority of carbon across the landscapes. Studies have shown that protecting our mature temperate rainforests from logging would store the equivalent of approximately 8 years of regional fossil fuel emissions. This is an incredibly valuable climate solution that I am very grateful the Commission has recognized in its Natural and Working Lands Proposal.

I also strongly support the Proposal's recommendations to:

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- *Adopt improvements in the Forest Practices Act to continue to improve climate and carbon sequestration outcomes in Oregon's forests

It is very important that Oregon's GHG emissions from the forestry sector be accurately measured and tracked, ideally as part of DEQ's Greenhouse Gas Sector-Based Inventory Data. Partnering with the FIA to collect better data is a good start, but that data needs to be housed in the same place as all of Oregon's other GHG emissions.

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Mr Randall Webb
Portland, OR 97210

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

The temperate rainforests of the Pacific Northwest store even more carbon per acre than tropical rainforests, and larger, older trees everywhere store the majority of carbon across the landscapes. Studies have shown that protecting our mature temperate rainforests from logging would store the equivalent of approximately 8 years of regional fossil fuel emissions. This is an incredibly valuable climate solution that I am very grateful the Commission has recognized in its Natural and Working Lands Proposal.

I also strongly support the Proposal's recommendations to:

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It is very important that Oregon's GHG emissions from the forestry sector be accurately measured and tracked, ideally as part of DEQ's Greenhouse Gas Sector-Based Inventory Data. Partnering with the FIA to collect better data is a good start, but that data needs to be housed in the same place as all of Oregon's other GHG emissions.

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Mr. Mark Wheeler
Portland, OR 97215

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

The temperate rainforests of the Pacific Northwest store even more carbon per acre than tropical rainforests, and larger, older trees everywhere store the majority of carbon across the landscapes. Studies have shown that protecting our mature temperate rainforests from logging would store the equivalent of approximately 8 years of regional fossil fuel emissions. This is an incredibly valuable climate solution that I am very grateful the Commission has recognized in its Natural and Working Lands Proposal.

I also strongly support the Proposal's recommendations to:

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Ms. Lauren Anderson
Portland, OR 97211

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

The temperate rainforests of the Pacific Northwest store even more carbon per acre than tropical rainforests, and larger, older trees everywhere store the majority of carbon across the landscapes. Studies have shown that protecting our mature temperate rainforests from logging would store the equivalent of approximately 8 years of regional fossil fuel emissions. This is an incredibly valuable climate solution that I am very grateful the Commission has recognized in its Natural and Working Lands Proposal.

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,

Ms Laurie Lakin

1016 NW Ogden Ave Bend, OR 97703-1624

ljlakin@gmail.com

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

The temperate rainforests of the Pacific Northwest store even more carbon per acre than tropical rainforests, and larger, older trees everywhere store the majority of carbon across the landscapes. Studies have shown that protecting our mature temperate rainforests from logging would store the equivalent of approximately 8 years of regional fossil fuel emissions. This is an incredibly valuable climate solution that I am very grateful the Commission has recognized in its Natural and Working Lands Proposal.

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,

Mrs. Sarah Tiller-Holman

3247 Orchard Heights Rd NW Salem, OR 97304-1729 stillerholman@gmail.com

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,

Rev. Danahy Sharonrose

1623 SE 49th Ave Portland, OR 97215-3222 auspiciouslife@gmail.com

Dear Oregon Global Warming Commission,

I am writing to urge you to set strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

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I strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Thank you for your attention.

Sincerely,
Dr. Daniel Jaffee
4723 NE 14th Ave Portland, OR 97211-5011 dsjaffee@gmail.com

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

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I also strongly support the Proposal's recommendations to:

*Establish a blue-ribbon panel to develop a strategic plan for how to adopt climate-smart forest management strategies in Oregon, *Establish a Natural and Working Lands Council to establish a baseline for GHG emissions reductions and carbon sequestration, *Adopt improvements in the Forest Practices Act to continue to improve climate and carbon sequestration outcomes in Oregon's forests

It is very important that Oregon's GHG emissions from the forestry sector be accurately measured and tracked, ideally as part of DEQ's Greenhouse Gas Sector-Based Inventory Data. Partnering with the FIA to collect better data is a good start, but that data needs to be housed in the same place as all of Oregon's other GHG emissions.

The Proposal should also include the recommendation that the climate impacts from post-fire logging be assessed as part of ODF's environmental assessment process. Salvage logging removes carbon that would otherwise continue to be stored in dead trees on the landscape. Studies show that harvest-related emissions are far higher than emissions from wildfire (Law et al. 2018; Hudiburg et al. 2019). Logging burned forests also further degrades watersheds and hampers natural recovery.

Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Mrs. Audie Paulus
5625 SE Oetkin Rd Milwaukie, OR 97267-4112 apaulus@wildsalmoncenter.org

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

The temperate rainforests of the Pacific Northwest store even more carbon per acre than tropical rainforests, and larger, older trees everywhere store the majority of carbon across the landscapes. Studies have shown that protecting our mature temperate rainforests from logging would store the equivalent of approximately 8 years of regional fossil fuel emissions. This is an incredibly valuable climate solution that I am very grateful the Commission has recognized in its Natural and Working Lands Proposal.

I also strongly support the Proposal's recommendations to:

*Establish a blue-ribbon panel to develop a strategic plan for how to adopt climate-smart forest management strategies in Oregon, *Establish a Natural and Working Lands Council to establish a baseline for GHG emissions reductions and carbon sequestration, *Adopt improvements in the Forest Practices Act to continue to improve climate and carbon sequestration outcomes in Oregon's forests

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,

Mrs. Susan Donohoe

3012 SW Canterbury Ln Portland, OR 97205-5809 Susanedonohoe@gmail.com

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

The temperate rainforests of the Pacific Northwest store even more carbon per acre than tropical rainforests, and larger, older trees everywhere store the majority of carbon across the landscapes. Studies have shown that protecting our mature temperate rainforests from logging would store the equivalent of approximately 8 years of regional fossil fuel emissions. This is an incredibly valuable climate solution that I am very grateful the Commission has recognized in its Natural and Working Lands Proposal.

I also strongly support the Proposal's recommendations to:

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Miss Jessica Tinker
515 Creel Rd Talent, OR 97540-8615
jatinker10@gmail.com

Dear Oregon Global Warming Commission,

The greatest good – and our collective obligation – is served only by preserving and protecting the natural systems on which all life depends and wildlife that inhabit them, by protecting our natural heritage for wildlife and their future generations. There is no Planet B. There is no Second Nature. Wild Lives Matter!

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

The temperate rainforests of the Pacific Northwest store even more carbon per acre than tropical rainforests, and larger, older trees everywhere store the majority of carbon across the landscapes. Studies have shown that protecting our mature temperate rainforests from logging would store the equivalent of approximately 8 years of regional fossil fuel emissions. This is an incredibly valuable climate solution that I am very grateful the Commission has recognized in its Natural and Working Lands Proposal.

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,

Mr. David and Judith Berg

4125 Brae Burn Dr Eugene, OR 97405-2037 david_berg@comcast.net

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

The temperate rainforests of the Pacific Northwest store even more carbon per acre than tropical rainforests, and larger, older trees everywhere store the majority of carbon across the landscapes. Studies have shown that protecting our mature temperate rainforests from logging would store the equivalent of approximately 8 years of regional fossil fuel emissions. This is an incredibly valuable climate solution that I am very grateful the Commission has recognized in its Natural and Working Lands Proposal.

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,

Ms. Priscilla Lane

5529 SE Morrison St Portland, OR 97215-1850 lanekappes@comcast.net

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

The temperate rainforests of the Pacific Northwest store even more carbon per acre than tropical rainforests, and larger, older trees everywhere store the majority of carbon across the landscapes. Studies have shown that protecting our mature temperate rainforests from logging would store the equivalent of approximately 8 years of regional fossil fuel emissions. This is an incredibly valuable climate solution that I am very grateful the Commission has recognized in its Natural and Working Lands Proposal.

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Sincerely,
Mr Griffith Davies
960 Lewis St North Bend, OR 97459-3030
gwynn46@yahoo.com

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

The temperate rainforests of the Pacific Northwest store even more carbon per acre than tropical rainforests, and larger, older trees everywhere store the majority of carbon across the landscapes. Studies have shown that protecting our mature temperate rainforests from logging would store the equivalent of approximately 8 years of regional fossil fuel emissions. This is an incredibly valuable climate solution that I am very grateful the Commission has recognized in its Natural and Working Lands Proposal.

I also strongly support the Proposal's recommendations to:

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,

Mr. Ryan Curtis

80 NE 14th Ave Apt 507 Portland, OR 97232-3570 rcfsu@outlook.com

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

The temperate rainforests of the Pacific Northwest store even more carbon per acre than tropical rainforests, and larger, older trees everywhere store the majority of carbon across the landscapes. Studies have shown that protecting our mature temperate rainforests from logging would store the equivalent of approximately 8 years of regional fossil fuel emissions. This is an incredibly valuable climate solution that I am very grateful the Commission has recognized in its Natural and Working Lands Proposal.

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,

Mrs. Lori LaBissoniere O'Neil

71635 E Minikahda Ave Rhododendron, OR 97049-8842 driftawake@gmail.com

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

The temperate rainforests of the Pacific Northwest store even more carbon per acre than tropical rainforests, and larger, older trees everywhere store the majority of carbon across the landscapes. Studies have shown that protecting our mature temperate rainforests from logging would store the equivalent of approximately 8 years of regional fossil fuel emissions. This is an incredibly valuable climate solution that I am very grateful the Commission has recognized in its Natural and Working Lands Proposal.

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,

Mr Don Jacobson

2545 SW Terwilliger Blvd Apt 314 Portland, OR 97201-6304 donjphoto@gmail.com

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,

Dr. Dan Liberthson

962 S U St Cottage Grove, OR 97424-3904 liberthson@gmail.com

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a

central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

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Sincerely,

Mr. Stephen Fuller-Rowell

91 N Polk St Eugene, OR 97402-4108

sifr2@aol.com

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,

Ms Gwen Stone

1101 SW Pioneer Way Myrtle Creek, OR 97457-9108 gwenstone7@gmail.com

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

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Sincerely,

Mr. Robert Kimbro

7625 SW Wilson Ave Beaverton, OR 97008-6117 lbkimbro@comcast.net

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

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Our forests are shrinking because we cut them too fast. We are warmer as a result. Please take a look at maps of the forests just after World War 2 and compare them with the extent of the forests today. The current level of wildfires tell us we need to do something different. Logging is not always the best means to use the forest. Please think creatively and not just do what has always been done.

Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,

Mr. RONALD ATWOOD

2311 NE Hancock St Portland, OR 97212-4752 ratwood@ronaldwatwood.com

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

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- *Adopt improvements in the Forest Practices Act to continue to improve climate and carbon sequestration outcomes in Oregon's forests

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The Proposal should also include the recommendation that the climate impacts from post-fire logging be assessed as part of ODF's environmental assessment process. Salvage logging removes carbon that

would otherwise continue to be stored in dead trees on the landscape. Studies show that harvest-related emissions are far higher than emissions from wildfire (Law et al. 2018; Hudiburg et al. 2019). Logging burned forests also further degrades watersheds and hampers natural recovery.

Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,

Mr. John Koenig

3968 Brae Burn Dr Eugene, OR 97405-4973 johnk@oregonnet.com

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

The temperate rainforests of the Pacific Northwest store even more carbon per acre than tropical rainforests, and larger, older trees everywhere store the majority of carbon across the landscapes. Studies have shown that protecting our mature temperate rainforests from logging would store the equivalent of approximately 8 years of regional fossil fuel emissions. This is an incredibly valuable climate solution that I am very grateful the Commission has recognized in its Natural and Working Lands Proposal.

I also strongly support the Proposal's recommendations to:

- *Establish a blue-ribbon panel to develop a strategic plan for how to adopt climate-smart forest management strategies in Oregon,
- *Establish a Natural and Working Lands Council to establish a baseline for GHG emissions reductions and carbon sequestration,
- *Adopt improvements in the Forest Practices Act to continue to improve climate and carbon sequestration outcomes in Oregon's forests

It is very important that Oregon's GHG emissions from the forestry sector be accurately measured and tracked, ideally as part of DEQ's Greenhouse Gas Sector-Based Inventory Data. Partnering with the FIA to collect better data is a good start, but that data needs to be housed in the same place as all of Oregon's other GHG emissions.

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Ms. Carolyn Buhl
1128 SE 30th Ave Portland, OR 97214-4011 carolynbuhl@gmail.com

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

The temperate rainforests of the Pacific Northwest store even more carbon per acre than tropical rainforests, and larger, older trees everywhere store the majority of carbon across the landscapes. Studies have shown that protecting our mature temperate rainforests from logging would store the equivalent of approximately 8 years of regional fossil fuel emissions. This is an incredibly valuable climate solution that I am very grateful the Commission has recognized in its Natural and Working Lands Proposal.

I also strongly support the Proposal's recommendations to:

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Ms. Marsha Barr
1939 Adams St Eugene, OR 97405-2130
barr.marsha@gmail.com

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

The temperate rainforests of the Pacific Northwest store even more carbon per acre than tropical rainforests, and larger, older trees everywhere store the majority of carbon across the landscapes. Studies have shown that protecting our mature temperate rainforests from logging would store the equivalent of approximately 8 years of regional fossil fuel emissions. This is an incredibly valuable climate solution that I am very grateful the Commission has recognized in its Natural and Working Lands Proposal.

I also strongly support the Proposal's recommendations to:

*Establish a blue-ribbon panel to develop a strategic plan for how to adopt climate-smart forest management strategies in Oregon, *Establish a Natural and Working Lands Council to establish a baseline for GHG emissions reductions and carbon sequestration, *Adopt improvements in the Forest Practices Act to continue to improve climate and carbon sequestration outcomes in Oregon's forests

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,

Mrs. Sue Ward-McCurdy

3005 NE Tillamook St Portland, OR 97212-5137 irdlts@yahoo.com

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

The temperate rainforests of the Pacific Northwest store even more carbon per acre than tropical rainforests, and larger, older trees everywhere store the majority of carbon across the landscapes. Studies have shown that protecting our mature temperate rainforests from logging would store the equivalent of approximately 8 years of regional fossil fuel emissions. This is an incredibly valuable climate solution that I am very grateful the Commission has recognized in its Natural and Working Lands Proposal.

I also strongly support the Proposal's recommendations to:

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,

Dr. Richard Gorringer

3574 NE Stanton St Portland, OR 97212-2747 richgorr@msn.com

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing. But extending the rotations, and increasing the riparian buffers in western Oregon is the greatest path Oregon has to meeting our Climate Goals. We're in crisis, we really need you to do this now. Thank you so much for taking this to the legislature.

The temperate rainforests of the Pacific Northwest store even more carbon per acre than tropical rainforests, and larger, older trees everywhere store the majority of carbon across the landscapes. Studies have shown that protecting our mature temperate rainforests from logging would store the equivalent of approximately 8 years of regional fossil fuel emissions. This is an incredibly valuable

climate solution that I am very grateful the Commission has recognized in its Natural and Working Lands Proposal.

I also strongly support the Proposal's recommendations to:

*Establish a blue-ribbon panel to develop a strategic plan for how to adopt climate-smart forest management strategies in Oregon, *Establish a Natural and Working Lands Council to establish a baseline for GHG emissions reductions and carbon sequestration, *Adopt improvements in the Forest Practices Act to continue to improve climate and carbon sequestration outcomes in Oregon's forests This can all be done a way that doesn't hurt our economy, but rather supports it. The logging companies here work at much stricter standards in other states, and still make plenty of money, they know they'll be fine here too. This change will benefit everyone, not just in the state but the world. That is how important Oregon's temperate rainforests are, globally significant in the fighting this crisis.

Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity, water, and climate crises.

Sincerely,

Mrs. Katie Voelke

13255 Hugo St Nehalem, OR 97131-9621

katievoelke@yahoo.com

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

The temperate rainforests of the Pacific Northwest store even more carbon per acre than tropical rainforests, and larger, older trees everywhere store the majority of carbon across the landscapes. Studies have shown that protecting our mature temperate rainforests from logging would store the equivalent of approximately 8 years of regional fossil fuel emissions. This is an incredibly valuable climate solution that I am very grateful the Commission has recognized in its Natural and Working Lands Proposal.

I also strongly support the Proposal's recommendations to:

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to collect better data is a good start, but that data needs to be housed in the same place as all of Oregon's other GHG emissions.

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Ms. Tia Hatton
63625 Brahma Ct N Bend, OR 97701-7360
tia@olcv.org

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

The temperate rainforests of the Pacific Northwest store even more carbon per acre than tropical rainforests, and larger, older trees everywhere store the majority of carbon across the landscapes. Studies have shown that protecting our mature temperate rainforests from logging would store the equivalent of approximately 8 years of regional fossil fuel emissions. This is an incredibly valuable climate solution that I am very grateful the Commission has recognized in its Natural and Working Lands Proposal.

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- *Establish a blue-ribbon panel to develop a strategic plan for how to adopt climate-smart forest management strategies in Oregon,
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- *Adopt improvements in the Forest Practices Act to continue to improve climate and carbon sequestration outcomes in Oregon's forests

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related emissions are far higher than emissions from wildfire (Law et al. 2018; Hudiburg et al. 2019). Logging burned forests also further degrades watersheds and hampers natural recovery.

Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Mx. Margaret Stephens
1830 23rd St NE Salem, OR 97301-8142
mlstep@msn.com

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

The temperate rainforests of the Pacific Northwest store even more carbon per acre than tropical rainforests, and larger, older trees everywhere store the majority of carbon across the landscapes. Studies have shown that protecting our mature temperate rainforests from logging would store the equivalent of approximately 8 years of regional fossil fuel emissions. This is an incredibly valuable climate solution that I am very grateful the Commission has recognized in its Natural and Working Lands Proposal.

I also strongly support the Proposal's recommendations to:

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Ms Marie Wakefield
3054 Highway 20 Newport, OR 97365-9519
wakefieldm_2000@yahoo.com

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Ms. Lisa Holmes
5724 SE 22nd Ave Portland, OR 97202-5236 lholfmes@yulanstudio.com

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

The temperate rainforests of the Pacific Northwest store even more carbon per acre than tropical rainforests, and larger, older trees everywhere store the majority of carbon across the landscapes. Studies have shown that protecting our mature temperate rainforests from logging would store the equivalent of approximately 8 years of regional fossil fuel emissions. This is an incredibly valuable climate solution that I am very grateful the Commission has recognized in its Natural and Working Lands Proposal.

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Mr. Tom Keys
1103 SE 21st Ct Gresham, OR 97080-9340
tkeyshike@msn.com

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,

Mr. Don Merrick

13376 SW Chelsea Loop Portland, OR 97223-6062 d1m.6606@gmail.com

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,

Mr. Dana Bleckinger

1045 Driftwood Ln Yachats, OR 97498-9748 wooflevi@yahoo.com

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,

Mr. Nicholas Bard

4262 SE Belmont St Apt 308 Portland, OR 97215-1767 bardtom535@gmail.com

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

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Sincerely,

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Ms. Cathryn Kasper
1875 NW Lewisburg Ave Corvallis, OR 97330-9783 cathrynk@me.com

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

The temperate rainforests of the Pacific Northwest store even more carbon per acre than tropical rainforests, and larger, older trees everywhere store the majority of carbon across the landscapes. Studies have shown that protecting our mature temperate rainforests from logging would store the equivalent of approximately 8 years of regional fossil fuel emissions. This is an incredibly valuable climate solution that I am very grateful the Commission has recognized in its Natural and Working Lands Proposal.

I also strongly support the Proposal's recommendations to:

- *Establish a blue-ribbon panel to develop a strategic plan for how to adopt climate-smart forest management strategies in Oregon,
- *Establish a Natural and Working Lands Council to establish a baseline for GHG emissions reductions and carbon sequestration,
- *Adopt improvements in the Forest Practices Act to continue to improve climate and carbon sequestration outcomes in Oregon's forests

It is very important that Oregon's GHG emissions from the forestry sector be accurately measured and tracked, ideally as part of DEQ's Greenhouse Gas Sector-Based Inventory Data. Partnering with the FIA to collect better data is a good start, but that data needs to be housed in the same place as all of Oregon's other GHG emissions.

The Proposal should also include the recommendation that the climate impacts from post-fire logging be assessed as part of ODF's environmental assessment process. Salvage logging removes carbon that would otherwise continue to be stored in dead trees on the landscape. Studies show that harvest-related emissions are far higher than emissions from wildfire (Law et al. 2018; Hudiburg et al. 2019). Logging burned forests also further degrades watersheds and hampers natural recovery.

Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Dr. Gerry McCain
PO Box 1074 Ashland, OR 97520-0063

mccaing@sou.edu

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,

Mr. Michael Wherley
952 W 4th Ave Eugene, OR 97402-4931
mfwherley@gmail.com

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a

central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,

Ms. Betsy McMahon

411 North Ave Manzanita, OR 97130-9056

betmcmahon@yahoo.com

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

The temperate rainforests of the Pacific Northwest store even more carbon per acre than tropical rainforests, and larger, older trees everywhere store the majority of carbon across the landscapes. Studies have shown that protecting our mature temperate rainforests from logging would store the

equivalent of approximately 8 years of regional fossil fuel emissions. This is an incredibly valuable climate solution that I am very grateful the Commission has recognized in its Natural and Working Lands Proposal.

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,

Ms Victoria Koch

1525 W 12th Ave Eugene, OR 97402-3744

victoria.a.koch@gmail.com

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

The temperate rainforests of the Pacific Northwest store even more carbon per acre than tropical rainforests, and larger, older trees everywhere store the majority of carbon across the landscapes. Studies have shown that protecting our mature temperate rainforests from logging would store the equivalent of approximately 8 years of regional fossil fuel emissions. This is an incredibly valuable climate solution that I am very grateful the Commission has recognized in its Natural and Working Lands Proposal.

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,

Ms. Melissa Rehder

5630 SE Malden St Portland, OR 97206-9067 melissarehd@gmail.com

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Mrs. Pam Birmingham
41810 Misty Mountain Ln Seaside, OR 97138-6081 pamb@windermere.com

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Ms Danielle Mericle
2022 Onyx St Eugene, OR 97403-1532
mericled@yahoo.com

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

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Sincerely,
Mr. Dan Sherwood
1719 SE 35th Ave Portland, OR 97214-5038 dan@dansherwood.com

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Mr. Milton and Shirley Nelson
1451 Spruce St Apt 323 Florence, OR 97439-9682 masflo222@gmail.com

Dear Oregon Global Warming Commission,

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,
Mr. Zed Langston
4000 Jessen Dr Eugene, OR 97402-9717
zedlangston@gmail.com

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

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Sincerely,

Mr Cunningham Casey

7037 NE 8th Ave Portland, OR 97211-3523 redpeelingbark@gmail.com

Dear Oregon Global Warming Commission,

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Sincerely,

Ms. Kris Ebbe

540 SE Atwood Ave Corvallis, OR 97333-1853 kristins540river@gmail.com

Dear Oregon Global Warming Commission,

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Sincerely,

Ms. Marna Herrington

530 NW 23rd Ave Ste 110 Portland, OR 97210-3287 marnah@mindspring.com

Dear Oregon Global Warming Commission,

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,

Mr. Kimber Nelson

7827 SE 66th Ave Portland, OR 97206-9615 kimber_nelson@hotmail.com

Dear Oregon Global Warming Commission,

Thank you for setting strong carbon sequestration goals for Oregon's Natural and working lands, and especially for recommending longer logging rotations and additional protections for mature and old growth forests on public lands. Protecting the few remaining mature and old growth stands must be a central component of Oregon's strategy to address the joint climate and extinction crises we face today. These old forests are worth more standing.

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Sincerely,
Ms. Marilyn Mooshie
970 Lake Shore Dr Selma, OR 97538-9528
marilynmooshie@gmail.com

Dear Oregon Global Warming Commission,

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Thank you for your leadership in developing this Proposal, we strongly support natural climate solutions being central to Oregon's actions to address the joint biodiversity and climate crises.

Sincerely,

Dr. Ellen Yarnell
4832 SE 73rd Ave Portland, OR 97206-4427 yarnell3439@comcast.net

To OGWC
Re: Removal of Natural Vegetation on NFS land

Hello, members of the OGWC:
I would like to comment on some proposals outlined in the implementation of the 21st Century Conservation Corps Act.

My primary objections are that many of the proposals are too broad, will increase CO2 emissions, and reduce biodiversity and the resiliency it offers because the odds of the proposed activities actually preventing or slowing a fire are slim to none.

As an example, encouraging logging for biomass production is **NOT** a climate positive position because there would be an unavoidable increase in CO2 emissions, which are the basic cause of our devastating fires and deteriorating climate.

Please do not incentivise the removal of vegetation from our forests. Instead, target job creation for activities that will enhance the environment **WHILE** lowering CO2 emissions and will actually remove (drawdown) carbon from our atmosphere. These are the actual actions that are **REQUIRED** to deal effectively with global warming.

Thank you for your consideration.
Gail Cordell
Oregon City OR 97045

Sent via form submission from [Keep Oregon Cool](#)
Name: Karyn Winrich
Email Address: karyn@financial-literacy.info
Subject: Ideas for a greener, more energy-efficient lifestyle
Message: Hi again,

I'm not sure my last message to you made it through, so I've attached it below for your review. I hope the list of resources is helpful and that you'll consider letting me write for you!

I have two great passions in my life (other than my family, of course!): helping people find better financial footing and caring for the environment. What's funny to me is that a lot of people don't realize these two ideas go hand in hand — by taking steps to live a more energy-efficient and overall greener life, you can save money AND the planet!

Since you clearly share my passion, I'm passing along some resources that offer easy-to-implement ideas for making your home more eco-friendly. My thought was you may like to add them to one of (-keeporegoncool.org)'s pages to help your readers make changes that will help the environment (and as a bonus, their budget!):

12 Steps to Energy Efficiency and Affordable Zero Energy Homes

<https://zeroenergyproject.org/build/twelve-steps-affordable-zero-energy-home-construction-design/>

How To: Energy Efficient Heating and Cooling

<https://www.delmarfans.com/educate/energy-efficient-heating-cooling/>

Your Guide to Identifying & Unplugging Standby Power Appliances

<https://20somethingfinance.com/electrical-leaking-standby-appliance-list/>

The Homeowner's Guide To Energy Efficient Mortgages

<https://www.mortgagecalculator.org/helpful-advice/energy-efficient-mortgages.php>

20 Ways to conserve water at home: A room-by-room guide

<https://www.thezebra.com/resources/home/how-to-conserve-water-at-home/>

Eco-Friendly Cleaning Products to Replace Harsh Household Cleaners

<https://reelpaper.com/blogs/reel-talk/eco-friendly-cleaning-products>

The Essential Guide to Green Cleaning for Pet Owners

<https://greencleaningreviews.com/the-essential-guide-to-green-cleaning-for-pet-owners/>

How To Start Composting - How To Start A Compost Pile

<https://rurallivingtoday.com/gardens/how-to-start-composting/>

Eco-Friendly Gardens: 10 Meaningful Ways To Create An Eco-Garden With The Environment In Mind

<https://www.homefortheharvest.com/eco-friendly-garden/>

Your Guide To Hybrid And Electric Vehicles

<https://www.geico.com/living/driving/auto/auto-care/a-guide-to-hybrid-and-electric-vehicles/>

I hope you can find a way to use these!

By the way, I think one of the first things people think of when they think about green home improvements (based on my experience) is solar panels. Since roof solar panels are such a great way to make your home greener and save energy, would you be interested in reading an original article I write for you on this topic?

Best,
Karyn

Karyn Winrich

karyn@financial-literacy.info

If I've reached out to you by mistake, please reply to this email with "no more contact" in the subject line. Thanks!

As a member of Oregon Wild and a citizen of Oregon for over 25 years I would like the following items included in the Natural and Working Land report.

Old Growth Carbon Reserves on public lands, longer logging rotations, increase green tree retention and much larger riparian buffers.

Please also require emissions from logging activity to be included in the Department of Environmental Qualities Greenhouse Gas Reporting Program.

These recommendations are simple but extremely important steps that Oregon can take to reduce emissions and improve carbon sequestration.

Thank you for taking these steps into consideration.

Valerie White

valeriejwhite@bendbroadband.com

Dear Global Warming Commission,

I urge you to include old growth carbon reserves on public lands. Also, please allow longer logging rotations, increased green tree retentions and bigger riparian buffers in your Natural and Working Lands Report. With our environmental crisis it is important to require that emissions from logging be included in the Department of Environmental Qualities Greenhouse Gas Reporting Program. These steps will help reduce emissions and improve carbon sequestration.

Jeannine Florance
1622 NW Galveston Ave,
Bend, OR 97703

There are important steps that Oregon can take to reduce emissions and improve carbon sequestration:

Require that emissions from logging be included in the Department of Environmental Qualities Greenhouse Gas Reporting Program.

Require longer logging rotations

Include old growth carbon reserves on public lands

Increase green tree retention and bigger riparian buffers in the Natural and Working Lands Report

Yours very truly,

Michael P. Ryan

From: Angus Duncan <angusduncan99@gmail.com>

Sent: Tuesday, July 13, 2021 1:19 PM

To: Cathy Macdonald <cmacdonald@tnc.org>

Cc: BUCHANAN Maya * ODOE <Maya.BUCHANAN@energy.oregon.gov>

Subject: Comments Submitted to OGWC Natural and Working Lands Recommendations Process

Cathy and Maya,

Attached are my comments to the Commission regarding its tasked Recommendations to the Governor on Natural and Working Lands carbon sources and sinks, and on policies that will limit the former and enlarge upon the latter.

As you know, I have a great deal invested in rationalizing Oregon forest carbon policies and bending them in support of Oregon's part of the global carbon solution. Thanks for the contributions you both are making to this critical next step in assembling a meaningful and complete set of state carbon policies.

Sincerely,

Angus

Angus Duncan
PNW Consultant
Natural Resources Defense Council
503.248.7695
[please note new Email address:
angusduncan99@gmail.com]



AD Comments to
OGWC re N&WL Cart

July 13, 2021

Memorandum

From Angus Duncan, Chair Emeritus, Oregon Global Warming Commission
For Oregon Global Warming Commission Members

RE: Comments Regarding the Commission's Natural and Working Lands Carbon Recommendations to the Governor pursuant to EO 20-04

Chair Macdonald and Commissioners:

I have generally tried to step back from the Commission's proceedings since stepping down as Chair last year, in deference to the new Chair and Members. The matter of Natural and Working Lands (N&WL), and more particularly of forest carbon, is one to which I devoted many hours as Chair, wrote and re-wrote the 2018 Report to get it as right as our information then permitted, and sought to keep these questions in our state's climate agenda, often in the face of indifference or resistance, for most of the 13 years I served.

Before I begin the comments proper, I wish to remind Commission Members how pivotal their work and thinking is to Oregon's climate and carbon outcomes. Notwithstanding that the Commission has no direct authority to order state policy, your influence is substantial and pervasive.

To restrict myself to just one example, consider the multi-year effort to require inclusion of all costs, including the Social Cost of Carbon (SCC), in state cost-effectiveness calculations of climate actions. The concept, if not the term, showed up in the 2004 Advisory Group Report to Governor Kulongoski which noted that "avoided costs" might include coping with the climate change effects – flooding, drought, snowpack decline, aggravated asthma. Avoiding these costs should be factored into cost-effectiveness testing.

The 2011 OGWC Report picked up this thread, proposing "that the 'true cost of carbon' be reflected in state agency decision-making, investments and rules." Subsequent iterations of this recommendation, along with the emergence of the concept in state agency policymaking, are outlined in a brief addendum to these comments.

I reference this to remind us all that the Commission's recommendations carry real weight; and while the effects may not immediately manifest themselves, good recommendations based on factual science and sound analysis will prevail.

As with the SCC, so with N&WL carbon recommendations (Note: my comments are either for the full range of N&WL options, or focused on the forest sector with which I am most familiar).

Comments to OGWC on N&WL Carbon Recommendations to the Governor

1. **Goals and Stewardship:** The Commission is on solid ground in proposing an **outcome-based goal**. This is consistent with Oregon's GHG emissions goal-setting beginning with the recommendations of the Governor's Advisory Group on Global Warming in 2003.

A rigorous quantitative net sequestration goal can be accompanied by compliance pathways that allow flexibility so long as the goal is not compromised.

The goal should also, as proposed, be **additional** to Oregon's GHG emissions reduction goals. This is also consistent with consistent Commission practice of distinguishing emissions reductions from bio-genic carbon acquisition and sequestration. The Commission's 2011 Roadmap/Report sets out emissions reduction actions to reach the state's emissions reduction goals, **and in addition** proposes forest management actions to preserve and increase forest carbon sequestration.

It's useful here to state the rationale for treating these two quantities – fossil fuel emissions, and forest carbon sequestration – independently.

The health and safety of the planet depends on all its inhabitants contributing solutions *commensurate with their ability to do so*, without insisting on an abstract calculation of "fairness." Establishing fairness is hardly possible: there are too many ways to calculate "fair" shares of the responsibility to reduce emissions – current emissions; historical emissions; emissions per capita -- and while we are arguing over them the atmosphere can collapse around us.

Given Oregon's extensive and carbon-dense forests, Oregonians have a particular responsibility to assure that our forest carbon capabilities are leveraged to their fullest capacity. As custodians of these forests (and other working/natural lands), responsibilities fall to us that do not do so in the same degree to, say, Arizona or Rhode Island; while other states -- Kansas and Nebraska – must assume similar additional responsibilities for managing and conserving their grasslands. Opportunities for net sequestration gains realized in the N&WL sector are not distributed evenly but are no less important than, and so must be **additional** to, the fossil fuel reductions that all states and countries must contribute.

The coastal rainforests of the Pacific Northwest, Alaska and BC are the most carbon-dense (C/acre) in the world and of global significance in the company of the Amazon, Central Africa, the Northern Boreal Forests and other tree-rich expanses. Oregon's forests are net acquirers of atmospheric carbon (acquiring more than they are releasing) where many other global forests are nearing the tipping point of releasing more than they can acquire.

There are strategies that can enlarge on Oregon's capabilities; and while it should be possible to do this without seriously disrupting financial outcomes for those who make their livings or their wealth from forest harvest, the health of the planet would make the compelling case to act notwithstanding, and seek to mitigate the near-term economic impacts.

Thus Oregon's forests today are acquiring atmospheric carbon at a net rate of ± 30 million metric tonnes CO₂ equivalent (MMTCO₂e) annually. Data and analysis provided the Commission from different experts suggest this acquisition level can be increased by 30% (Graves and Huago) to 50% (Law, et al), mostly through changes in forest practices on Oregon's industrial forest lands.

In only the last several decades these private industrial forests have reduced rotation intervals from \pm 80 years to 45 years or even 35 years. Returning just to those earlier rotation intervals, and adding modest reforestation and afforestation measures, would enable significantly increased levels of forest carbon capture and sequestration. While this would require modifying cash flow management practices for some of these industrial logging ventures, they would be likely rewarded with greater, if deferred, net amounts of merchantable fiber per acre overall.

[Addendum: One comment overheard in the OGWC June meeting was that Oregon might not yet know enough to set a goal. The truth is our knowledge will never be perfectly complete, any more than it has been for prior emissions goals, or land use goals, or other metrics Oregon has adopted to its advantage. In 2011 the OGWC had almost no quantitative data on forest carbon. We acknowledged that but still set non-quantitative objectives of consolidating carbon gains in westside public forests, managing for combined forest health and GHG emissions on the east side, and relying on private forests for product. We did the best we could with the information we had. This OGWC has far better data; it can do far better in goal-setting, understanding that this won't be the last bite of this apple. As information improves, goals can be refined. But imperfect knowledge shouldn't cause us to shrink from the task at hand, just proceed with due humility.]

2. **Incentives, Technical Assistance . . . and Regulation?** The Commission's "Revised Draft Goal Recommendations" memo of May 24, 2021, proposes as the state's tools "incentives and technical assistance." It appears to omit reference to "rules" or "regulations" as if we must choose between an entirely voluntary path and rulemaking. This is a false choice and must be seen as such by the Commission.

While incentives and assistance should certainly be deployed, especially for smaller woodlot owners, and to encourage performance above the minimums required, we have learned in other venues¹ that rules must spell out the minimum permissible level of compliance. We are applying a carbon cap rule to natural gas, vehicle fuels and stationary sources. State law is requiring electric utilities to deploy renewables, end coal-by-wire electricity deliveries, and completely decarbonize by 2040. The forest sector is quite as large and as crucial to the state's carbon goals, and the outer boundaries of the permissible must be spelled out in rule. It is an open question whether forest carbon rules will best be outcome-based (XX MMTCO₂e acquired/year) or more prescriptive (forest practices and rotation requirements); and this should be worked through to give the industrial forest owners substantial flexibility as to *how* they comply, but in compliance with a rigorous rule that will reliably deliver the needed emissions outcomes.

Including rulemaking in the state's toolbox is important whenever state priorities encounter short-term market forces. For-profit companies have higher discount rates (e.g., they value near-term revenue flows over more distant ones) than governments. For many products and services those discount rates are appropriate. But for slower-to-accumulate but longer-lived values like public health, clean air and water, natural ecosystem health, and a stable

¹ We note that DEQ's emissions cap rulemaking is incomplete and obligations of emitters under the proposed rule remain unclear. In some cases compliance flexibility proposals have the potential to compromise cap rigor.

climate, lower discount rates are more appropriate and can be embodied in public sector laws and rules.

Cash flow is important to businesses, and has been a driver in shortening forest rotation periods. Unless the state is prepared to commit extra financial resources to offset cash flow impacts, it must rely on rule-making to extend rotations in order to accumulate the greater forest carbon stores needed to reach state forest carbon acquisition goals. Such a rule has the advantage of being applied to all competitors in the market, so competitive effects are mooted.

Rotation time is significant. While it might appear that trees acquire carbon only slowly over many years, forests will continue their carbon uptake and sequestration as rules take effect. Many species exercise their most substantial carbon capture during prime growing years (from about 30 to 90 years old). Since we have already squandered forty years of scientific warnings, we must now accelerate emissions reductions and carbon capture from the atmosphere. *Thus a foreshortened ramp-in of the required modifications in forest practices is indicated.* The capture rates for forests should be comparable to the emissions reduction rates expected of electric utilities, stationary sources and other emitters (and if this is not sufficient to hold global temperature increases within tolerable limits, the actions may have to be accelerate again).

3. **Accurate Carbon Accounting:** One of the reasons the 2011 Commission did not adopt a forest carbon acquisition goal is that the data on which we could base such a goal were not available. Our priority ask for N&WL policymaking was for reliable Department of Forestry and Forest Service carbon measurements. The Forest Information & Analysis (FIA) data for Oregon were developed in response. These data and the extensive agency and academic analyses that have ensued enable the Commission to proceed with evidence-based recommendations.

In addition to perfecting and relying on these data, I offer two recommendations.

- **Data timeliness:** Consider seeking more frequent updating of the data base (as California has elected to do). Otherwise the data on which Oregon will be making policy could be five years or more out of date by the time it is collected, analyzed, provided to policymakers and applied in a policy development process. Climate change effects on the land base may evolve swiftly and abruptly; more contemporaneous data mean fewer surprises. The USFS may be able to do lower-cost spot checks of forest blocks, for less complete but more timely such interim updates.
- **Harvest Carbon Accounting:** The Commission had hoped that harvest carbon accounting would be more complete by 2021, including details such as substitution effects from comparing carbon profiles of wood products with other building materials. This level of precision is only possible if it is clear what forest harvest carbon effects are *relative to a base case of no harvest* (but ongoing forest health and fire management activities). The Commission recommended, in its 2018 Forest Carbon Accounting Report, that the harvest carbon accounting include carbon released to the atmosphere from (a) in-forest harvest residue decay; (b) emissions associated with harvest and product transport equipment, and from processing into product; (c) wood waste from processing, and short-lived byproducts that would release short-duration emissions

(within one-to-five years); (d) sequestered carbon in durable wood products, or in solid waste disposal sites designed to resist emissions from degraded wood products.

In effect, we sought to quantify all carbon losses to the atmosphere between a live tree in a forest and a 2X4 embedded in durable construction. That should be the test.

The sequestration value of durable wood products is a function of the **net** quantity of carbon sequestered and the time period over which it is held in place. “Net” means net of carbon losses beginning from a base case of the live tree (starting with in-forest losses) and ending with ultimate disposition of wood products and waste.

The ODF-sponsored “Oregon Harvested Wood Products Carbon Inventory 1906-2018” give us a 32.5% figure (per Simmons et al, 2016²) for in-forest harvest biomass residues³. Thus an example 1000 ton live tree base case would be reduced to 675 tons at the forest’s edge, loaded on a truck for delivery to a mill. Simmons details fiber disposition thereafter: 44% of the total debarked stem, or 297 tons, is milled into dimension lumber and plywood, while 56% goes to shorter-term uses (particleboard; pulp [paper]; pallets; mulch, etc.) or is combusted as fuel. The net in durable use products from the live tree base case is \pm 30% (297 tons). The non-durable balance (\pm 70%) is likely to decompose either immediately (fuel; mulch) or within a time frame (5 to 10 years) that may release significantly greater net quantities of greenhouse gas emissions than are sequestered in durable wood products, offset by the portion of this non-durable balance that finds its way to deposition in a carbon-secure landfill. Meanwhile regenerated live trees back in the forest in their first decade of growth are too young and small to capture significant offsetting quantities of atmospheric carbon.

Ganguly et al⁴ gives us the estimated 32.5% figure cited above (by Simmons) for carbon in harvest residue left in-forest to decompose (although he lists branches, tops and foliage but does not include carbon in stumps and roots, some of which can be expected to decompose and release CO₂ into the atmosphere, the balance embedding in the soil carbon pool). Overall he appears to arrive at an estimated 44% of the standing live tree that will become durable wood product, while 56% (inclusive of the in-forest residue and added losses) will be in materials that will decompose more or less immediately.

² “Oregon’s Forest Products Industry and Timber Harvest 2013”, Simmons et al, USFS/USDA Nov 2016, page 25 (https://www.fs.fed.us/pnw/pubs/pnw_gtr942.pdf). Note that additional adjustments are indicated including: fuel emissions from harvest, transport and processing; disposition of bark; additional on-site construction residue from lumber/plywood; substitution effects of displacing higher-carbon emitting materials (cement; steel); landfill emissions.

³ Page 27. Quantities are reported “biomass” and not carbon; these comments assume the quantities approximately align. Note also that “residues” referenced are above ground “tops, branches and foliage,” and do not indicate that stumps and roots are included in the residue quantities. These would add additional residue and carbon disposition effects.

⁴ “Global Warming Mitigating Role of Wood Products from Washington State’s Private Forests”, Ganguly et al in *Forests*, February 10, 2020 (<https://www.mdpi.com/1999-4907/11/2/194>)

If this is a reliable split of durable and non-durable, then a second estimate is needed of whether reforestation will defuse the loss of carbon in the forest, and how long before the carbon is restored. Generally carbon uptake by a growing tree is fastest after 20 years to 30 years of growth, slowing down after 80 years to 90 years (for Douglas Fir; other species will vary).

But the critical period for reducing carbon emissions, according to the IPCC, is the next ten years or so (to 2030). *Almost certainly replacements for trees harvested today will not have restored the lost carbon balance in the forest – net of carbon sequestered within durable wood product – within that period.*

There is a critical further question to put to the Ganguly data: of the 44% in “durable” wood product, how much of this product’s carbon storage function will expire within the first ten years. In his Figure 2 Ganguly includes “plywood” and “miscellaneous products” along with “lumber” to get to a 44% “durable” figure. Miscellaneous products include sawdust, chips, and “other” along with “panel trim.” It’s difficult to interpret carbon decay from these labels, but in Figure 3 the author gives us estimated CO₂ decay rates for his product categories. As expected, “lumber” has a slow decay rate and long carbon storage lifetime. “Paper” shows the opposite result. In the other two product categories – “plywood” and “miscellaneous products” the Figure appears to show that some 40% of the stored carbon in each category has released within the first ten years.

Reflecting on these findings, it appears there is less difference between the Simmons and Ganguly results than a first reading would imply. Both analyses appear to support the general findings of Clark et al (2011)⁵, referenced in the OGWC 2018 “Forest Carbon Accounting Project Report” (page 20) that even a “light” thinning will not recover its carbon for 24 to 40 years; while a “heavy” thinning will require ≥ 50 years to recover (Clark does not address the carbon recovery time of a commercial harvest but it is unlikely to be shorter than a “heavy” thinning).

Does this mean Oregon should altogether stop harvesting trees? If the state (and the planet) were moving with all deliberate speed to reduce emissions in other sectors, then we are likely talking about a *proportionate* contribution from forests. *An appropriate OGWC recommendation would be to adjust forest practices to increase forest carbon capture and retention by 30% to 50% over today’s levels by 2030.*

Why is it important to get to a “net” number that fully accounts for total product and waste streams beginning with in-forest harvest residue? To formulate forest carbon policy, we need carbon disposition numbers at each harvest stage and in aggregate. But USFS analysis accounts for in-forest harvest residues – 32.5% of the carbon in each tree – separate from its accounting of carbon disposition of the stems taken to mills for processing into wood products and waste. Thus its Harvested Wood Products-Carbon numbers begin at the forest’s

⁵ Impacts of Thinning on Carbon Stores in the PNW: A Plot Level Analysis,” Clark et al, 2011 (https://www.nrdc.org/sites/default/files/ene_13041704a.pdf)

edge⁶, after at least a third of the carbon is left on the ground to decompose or be piled and burned in situ. If policymakers want to determine how to allocate carbon effects of harvest and be able to shape harvest policy to account and manage for the complete carbon effects included, this third of the tree's carbon must be aggregated with the ex-forest carbon losses after the stem has left the forest. Not assembling all carbon effects of harvest in one place – in-forest and ex-forest – would be like only counting the carbon released from a gas power plant but ignoring well-head and pipeline fugitive emissions, and emissions from gas consumed to pressurize the pipeline. Another analogy: we might choose to count the energy to process food products, transport them, cook them, and wash up afterwards, but put into a separate bucket the energy to plant, fertilize, irrigate, and harvest the food products. And then not count this second bucket in attributing carbon effects to those fruits and vegetables.

The forest harvest carbon policy choices are to allow (a) no harvest or (b) some level of harvest. The state should have a reliable estimate of the carbon released to the atmosphere from either of these choices, immediately or on a known time delay, in order to judge whether the gains of harvest (jobs, private sector revenues, public sector revenues) are sufficient to offset the losses (carbon emissions, ecosystem disturbances). Incomplete carbon emissions numbers undermine the confidence that such policy choices must earn.

Apart from the HWP-C Report not aggregating harvest carbon losses and sequestered amounts, note that it still does not include other significant carbon effects, both positive and negative⁷.

4. **Wildfire and Forest Health Interventions:** Forest carbon measurements and ensuing policy will benefit from resolving uncertainties around carbon effects of wildfire, and from accurately weighing the carbon effects of forest health interventions – specifically, thinning and prescribed fire. In both cases outside forces have in-forest carbon consequences but also forest health consequences. Wildfire is integral to forest function, clearing smaller trees and brushy understory that in excess accumulations can fuel intensified fires. Forest ecosystems have adapted to fire, in some cases relying upon it for forest diversity (species adapted to open spaces within forests) and function (lodgepole pinecones require fire to open and release seed). Historically, wildfire burns in mosaic patterns, intensely in some places but moderately in most and leaving behind intact stands. Such fires should be treated as part of a forest's baseline. This begs the question whether climate change is resulting in fires of extent and intensity that they are carbon events to be measured from that normative baseline. In California there is certainly evidence that this is the case. In Oregon forests the jury is still out, or perhaps the fires that are

⁶ “. . . logging residue generated during timber harvesting, such as needles, branches, tops and other removals of non-merchantable material during operations such as pre-commercial thinning, are included in FIA's estimate of cut. Of the harvested tree, the stem represents about 67.54% while residues . . . represent about 32.46% of total biomass . . .” [Oregon Harvested Wood Products Carbon Inventory 1906-2018](#), page 27, USFS FIA April 20, 2020.

⁷ “The modeling framework does not include estimates for the emissions associated with timber harvesting, log transportation, HWP manufacturing substitution effects of wood products, bioenergy or leakage.” [Oregon Harvested Wood Products Carbon Inventory 1906-2018](#), page 27, USFS FIA April 20, 2020.

afflicting California have not progressed so far north yet into Oregon (but the last three years support a hypothesis that fire intensity and carbon loss, in the presence of extended drought and snowpack decline, may well have reached across the border). The state and the USFS need to be monitoring this to enable policymakers to be reasonably anticipating such effects but not overreacting in absence of sufficient evidence.

The USFS and other forest owners are also undertaking forest health interventions to (a) anticipate and manage the effects of fire in the Wild-Urban Interface, and (b) where fire suppression has allowed tree and understory growth in excess of historical levels and densities. Such interventions are often merited, but observers express concerns that “thinning” can be simply disguised harvest of mature trees for commercial purposes. Forest owners should bear a burden of proof that, measured against the carbon retention and ecosystem integrity that are disturbed, the interventions are the careful minimum justified for forest health purposes.

5. **Biofuels:** As with other forest products, forest-sourced biofuels must be required to calculate a net carbon valuation. For forest practices followed in some Southeast US forests that are grown to yield combustion fuels, the net is the total carbon cleared from the land and converted into fuel. Such practices are unlikely in Oregon forests, but the principle still obtains. *In forests managed principally for ecosystem value the baseline for calculating the carbon profile of biofuels should be the normative condition of the forest tract in question.* That is, if the forest manager is employing thinning and prescribed fire to reduce excess forest fuels, and the thinned materials will otherwise be burned in situ, retrieving these fuels for energy production should result in a net reduction in GHG emissions that would otherwise result. If the manager is reducing stems per acre, the net effect will depend on the alternative purposes to which the cut wood is directed (e.g., if processed, the prior discussion of harvest carbon accounting would apply; if burned in situ, the base line for diversion to biofuels would be such burning, and diversion into biofuels could result in net lower emissions by comparison).
6. **Baseline for Forest Conversion:** The Graves/Huago presentation to the OGWC proposes to use present *rates* of active conversion of N&WL’s to other purposes as the baseline for measuring carbon emissions progress. While other institutions may elect this “moving target” approach, *Oregon’s carbon policies have set baselines as a single value at a specified point in time from which progress or regress can be measured. To do otherwise is to lock in a certain rate of emissions increases as the base; that is, to accept a deteriorating condition as the reference point.* Values based on this approach may imply a degree of progress toward real emissions reductions when all we have accomplished is to *slow the rate of deterioration.*

The advantage of setting as a baseline a specified emissions level at a date certain and measuring from that point is that we can know whether we are collectively gaining or losing ground from that point forward. Slowing the rate of emissions growth is not the geophysical requirement. Reversing it is; that is, shifting from emissions *growth* to emissions *shrinkage* around a specific, fixed reference point. Thus the Governor’s Executive Order set goals (patterned on earlier Legislature-adopted goals) of 45% and 80% reductions from 1990 levels by 2035 and 2050 respectively. N&WL goals should conform to this more intuitively understandable and meaningful format, although the absence of measured forest carbon data prior to 2000 may suggest a later baseline for forests than for fossil emissions.

7. **Leakage:** “Leakage” in the GHG emissions game is understood as constraining emissions on this side of the state line (or country border) only to shift economic demand, and accompanying emissions, to a less conscientious party on the other side. It is a real effect of emissions regulation, but often (and purposefully) overstated. If consistently deferred to, it would make a mockery of efforts to rein in GHG emissions since most human endeavors, including populations, are susceptible of relocation. In fact there is a “stickiness” to most economic activities where relocation faces barriers: stranded investment in physical plant; loss of trained work force; increased distance from product inputs; shifts in market access vectors; and so on.

Any of these may be gotten around with enough time and investment; or another producer in the less conscientious jurisdiction may pick up greater market share. But Oregon can’t shirk drawing its climate lines for fear of leakage, any more than it should adjust its tax policies or its community investment practices because another jurisdiction will underbid us and steal our businesses and citizens. We can race to the bottom, or set a higher mark and invite current and future citizens and businesses to vote with their feet for what kind of education system, or public safety, or transportation network, they want to live and do business in. Same thing with air quality; same with GHG emissions. Oregon should always, as it has in the past, seek to set the mark higher, not lower.

2011 – 2021: OGWC Recommends “Social Cost of Carbon (SCC)” “To Become A Standard Analytic Reference for Oregon Agencies’ Policymaking”

[Note: The “social cost of carbon” was first published by the federal government in 2010, pursuant to prior Executive Orders that directed federal agencies to “use the best available scientific, technical, economic and other information to quantify the costs and benefits of rules.” The federal SCC was deployed under the Obama Administration, severely curtailed as to valuations under the Trump Administration, and is expected to be revived and refreshed under President Biden.]

I OGWC proposes that “true cost of carbon” be reflected in state agency decision-making, investments and rules.

2011 Roadmap to 2020: “Embed Carbon in the Planning Process: We’re now beginning to look at wringing carbon out of transportation in our land use and infrastructure planning, and in developing “least cost planning” tools for transportation operations and facilities. DEQ is looking at “consumption-based” measurements of greenhouse gases in the things we buy, use and dispose of. Utilities now look at the “risk” of carbon regulation, but their plans don’t include how they would meet their share of Oregon’s reduction goals; those plans need to do so.”

2018 OGWC Biennial Report: “Regarding true-cost pricing, those involved in the STS development process have recognized and emphasized the importance of sending a price signal about the impact of driving and thus incentivizing the adoption of other, less carbon-intensive, modal options.

2020 SCC Presentations to OGWC: “Primer on Social Cost of Carbon” developed by ODOE at request of OGWC; SCC experts present to Commission at May 2020 OGWC meeting.

2020 OGWC Biennial Report (page 22): Recommendation 7: The Legislature should pass legislation – or the Governor should issue an Executive Order – directing all state agencies in Oregon to use the Social Cost of Carbon as a metric to evaluate public investment decisions and to inform regulatory impacts analyses.

II Oregon State agencies incorporate true cost of carbon (SCC) into decision-making.

2013 ODOT Statewide Transportation (Greenhouse Gas) Strategy, 2013. Pricing, Funding and Markets:

16.1 Structuring user fees to be economically efficient by addressing the true cost of travel, including fees commensurate with carbon intensity (True cost pricing considerations include: transportation system costs (constructing, maintaining, and operating the transportation system) and social costs (costs of air pollution, and greenhouse gas emissions

16.5 Partnering with other states to develop national or regional mechanisms for incorporating the costs of external factors (environmental and other) into transportation user fees.

2017: TriMet includes “Social Costs” in its analysis of choosing diesel or electric replacement vehicles as its buses reach retirement age. “This analysis also examines the social costs of emission and noise (the social cost per ton of CO₂ is \$44.75, while the social cost per ton of NO_x is \$8,335.)” [page 20] (Without including this social cost of carbon, diesel and electric buses have roughly equal economic cost valuations. Including it, the electric buses are clearly superior and lower cost.)

2018 At OPUC direction, PGE and PAC introduce SCC into their Integrated Resource Planning processes (as reference value; not binding).

2020: Governor’s Executive Order 20-04 / 3. General Directives to State Agencies

C. Agency Decisions. To the full extent allowed by law, agencies shall consider and integrate climate change, climate change impacts, and the state’s GHG emissions reduction goals into their planning, budgets, investments, and policy making decisions.”

2021: ODOT “Transportation Funding” presentation to OR Transportation Commission

(ODOT) Analysis Processes Will Improve Over Time
“we are building the bus as we drive it”

Future Potential Opportunities for Improvement

- Social Equity
- Geographic Sensitivity
- *Social Cost of Carbon*
- Requires Stability in Funding Categories and Outcomes

To: The Oregon Global Warming Commission

For far too long has the role of old growth northwest forests as very efficient carbon sequestrers been downplayed. Old growth carbon reserves on public lands must be included in your Natural and Working

Lands Report, as well as, longer logging rotations, increased green tree retention, and bigger riparian buffers.

Carbon emissions from logging also need to be included in the reporting program of the Department of Environmental Qualities Greenhouse Gas Reporting Program. We were astounded that at this time emissions from logging are not currently measured in Oregon. Let us become a leader in climate smart forestry. So far, we disappointingly have lagged far behind in this regard. Let's change that.

Thank you,

Ernie and O'Byrne
Northwest Garden Nursery
86813 Central Rd
Eugene OR 97402-9284
541-935-3915

I am writing to encourage you to include old growth forest reserves on public lands, longer logging rotations, increased green tree retention and larger riparian buffers all of which will improve the health of our forests and help mitigate global warming. Additionally, I encourage you to require that emissions from logging be included in the Department of Environmental Qualities Greenhouse Gas Reporting Program.

Our forests are SO much more than just producing wood products. While that is an important part of the management of our forests, it has become clear our priorities need to change to management for health, diversity, sustainability and carbon capture.

Don Kuhns

Corvallis, OR 97333

Dear Sirs & Madams,

Please be sure to include old growth carbon reserves, longer logging rotations, increased green tree retention, and larger riparian buffers in your Natural and Working Lands Report. Also, please its important to include emissions from logging in the Department of Environmental Qualities Greenhouse Gas Reporting Program.

Maintaining our forests, and old-growth forests in particular is essential to head off global warming.

Thank you for your time,

Cathy Lewis-Dougherty
Lake Oswego, Oregon

Hello Oregon Global Warming Commission,

We are fortunate in Oregon to have an abundance of forests capable of withdrawing carbon dioxide from our air and sequestering the carbon while stabilizing our soils, cooling our climate and providing habitat for our complex biodiversity. The trees do so much for Oregon and the older the trees, the more they provide.

In your Natural and Working Lands Report please include increased protection for old growth and intact mature forests on public lands.

Also, request longer logging rotations and require that greenhouse gas emissions generated by logging operations be included in the Department of Environmental Qualities Greenhouse Gas reporting Program.

As a retired biologist living in Oregon, I greatly appreciate all you are doing to protect our forests and rivers. Thank you.

Gail Sabbadini
Bend, Oregon

Global Warming Commission:

In order to address global warming in Oregon I recommend you do the following:

Include old growth reserves on public land for carbon sequestration.

Institute longer logging rotation.

Increase green tree retention.

Enlarge streamside buffers

Emissions from logging should be included in the DEQ Greenhouse Gas Reporting Program.

Thank you for considering my comments.

Yours,

When pressed on this during RAC 6 it seemed as though DEQ folks were indicating they would restore the inclusion of sequestration, but then in conversations with folks from the Oregon Association of Conservation Districts, they re-committed to the restriction in the rules as it stands.

It seems that DEQ is adjusting the program rules as they go, and consequently compromising carbon sequestration efforts that the Governor's EO charges agencies to achieve.

I am trying to contact whoever I can to encourage pressure on DEQ on this issue. Is it possible for the OGWC (or you directly) to encourage DEQ to reinstate the carbon sequestration option for CCI funded projects? I suspect this will also be important for encouraging carbon sequestration in our Agricultural activities.

All the best,

Alan

Alan Journet Ph.D.
Co-facilitator
Southern Oregon Climate Action Now (SOCAN)

<https://socan.eco>

<http://socanmcp.eco/> SOCAN's Master Climate Protector - A Primer for Action

7113 Griffin Lane
Jacksonville OR
97530-9342

Professor emeritus
Biology and Environmental Science
Southeast Missouri State University
Cape Girardeau MO 63701-4799

Chair Macdonald,

Nora Apter, Climate Program Director, with Oregon Environmental Council, let me know that you reached out to her about language in the OCAP Ag/water subtable's recommendations to the OGWC which stated: *"The adopted policies and practices should contribute to Oregon's path to reduce its GHG emissions (1) at least 45 percent below 1990 emissions levels by 2035; and (2) at least 80 percent below 1990 emissions levels by 2050."*

I want to clarify that the OCAP ag/water subtable supports EO 20-04's science-backed goals of reducing its greenhouse gas (GHG) emissions (1) at least 45 percent below 1990 emissions levels by 2035; and (2) at least 80 percent below 1990 emissions levels by 2050. *We believe the OGWC's goals should be additive and separate from the state's emissions reduction targets.*

I have attached a revised letter clarifying that intent. Please let me know if you need any additional clarification of our intent.

I apologize for the confusion.

Megan Kemple, Co-Director, Oregon Climate and Agriculture Network (OrCAN)

Director of Policy Advocacy, Development and Operations

541-342-1537 (home office)

megan@oregonclimateag.org

www.oregonclimateag.org

My regular schedule with OrCAN is Monday-Friday 1pm-5pm

From: Nora Apter [<mailto:noraa@oeonline.org>]

Sent: Tuesday, June 15, 2021 10:47 AM

To: Megan Kemple, OrCAN <megan@oregonclimateag.org>; Grace Brahler <gbrahler@beyondtoxics.org>

Cc: Lauren Anderson <la@oregonwild.org>

Subject: Checking in on the Ag/water letter to OGWC

Hi Megan and Grace,

I hope you are both well. I wanted to check in on language in the Ag/Water subtable's letter re: OGWC's carbon sequestration/storage goal. (Copying Lauren for awareness).

Cathy Macdonald reached out this morning about language in that letter recommending that the N&WL goal be part of Oregon's sector goals and wanted to be sure that was what was intended and to understand the rationale. Here is the language:

“The adopted policies and practices should contribute to Oregon’s path to reduce its GHG emissions (1) at least 45 percent below 1990 emissions levels by 2035; and (2) at least 80 percent below 1990 emissions levels by 2050.”

Based on previous conversations, I think we are on the same page that carbon sequestration/storage goals should not count toward the state’s emissions reduction targets, but rather be parallel/in addition to. If so, could you clarify your intent with this recommendation? It's possible Cathy may ask for an amended version of the letter clarifying intent with that recommendation.

Thanks in advance and happy to hop on the phone if it's easier to chat that way!

Nora

Nora Apter (*she, her*)
Climate Program Director

Oregon Environmental Council

Take a stand for clean water, air and land. [Become a member today](#)



Clarified OCAP Ag
Water Recommendati

June 16, 2021

Chair Macdonald and members of the Oregon Global Warming Commission (OGWC):
On behalf of the Oregon Climate Action Plan (OCAP) Coalition, we are providing clarified shared recommendations for practices, incentives and other policy options Oregon should pursue to achieve a natural and working lands emissions and sequestration goal. The OCAP Coalition engages at every step of the Executive Order on Climate Action (EO 20-04) implementation process, working to ensure the strongest possible outcomes for our climate, our communities and our economy. We support EO 20-04’s science-backed goals of reducing its greenhouse gas (GHG) emissions (1) at least 45 percent below 1990 emissions levels by 2035; and (2) at least 80 percent below 1990 emissions levels by 2050. The OGWC’s goals should be additive and separate from the state’s

emissions reduction targets.

Overarching Goals and Objectives

Increase adoption of practices that sequester carbon in the soil or reduce GHG emissions on Oregon's natural and working lands.

Create and fund management and conservation programs to support practices that increase Oregon's overall sequestration of carbon in the soils and waters and reduction of other greenhouse (GHG) gases. These practices provide co-benefits such as enhanced soil health and productivity, soil water retention and quality, enhanced fish and wildlife habitat.

The development and implementation of these programs and practices should focus on public health improvements and economic opportunities, prioritize disadvantaged communities, and reduce risks to disadvantaged and vulnerable communities from climate impacts.

Facilitate multi-stakeholder collaboration, both public and private, to advance these recommendations and engage in soil health, carbon sequestration and climate resiliency programs

that would benefit Oregon's agricultural lands and watersheds. Stakeholder engagement must include: farmers and ranchers engaged in a variety of types of agricultural practices including organic, conventional, regenerative and sustainable practices; BIPOC producers and farmworkers;

soil and climate scientists; environmental and water advocates. Engage stakeholders including local

governments, irrigation districts, state and federal agencies and non-governmental organizations,

etc. Engage in regional discussions considering collaborative and multi-state efforts.

AGRICULTURE

Policy:

Create and fund management programs to support agricultural practices that increase sequestration of carbon in the soil and reduction of greenhouse (GHG) gas emissions. These practices provide multiple co-benefits such as: enhanced soil health and productivity, water retention and water quality, reduced erosion, microbial balance, pollinator, fish and wildlife habitat, and reduction of harmful algae blooms.

Practices and Incentives

1. Develop and periodically update an Oregon Agriculture Climate Resiliency and Mitigation Plan as

a basis to strategically plan and implement future sequestration and emission goals and respond to existing and future climate impacts.

2. Support expansion of technical assistance by state and federal agencies, soil and water conservation districts, Oregon State University Extension, and non-governmental organizations to

promote soil health practices that contribute to carbon sequestration such as: a) reduced tillage or

no-till,

b) rotational grazing,

c) cover cropping,

d) mulch and compost application,

e) hedgerow and riparian plantings,

f) silvopasture or agroforestry,

g) growth of deep rooted annual and perennial crops and rangeland grasses, h)

reduced and selective chemical inputs,

i) diversified cropping systems, and

j) other organic and regenerative practices.

3. Invest in programs to support adoption of practices which reduce GHG emissions or otherwise mitigate climate change:

a) Climate friendly nutrient management to reduce nitrous oxide emissions;

b) Alternative manure management in dairy, poultry and livestock production;

c) Organic waste composting systems;

d) Sustainable and organic production systems;

e) On farm strategies to reduce fossil fuel use such as reduced tillage and renewable energy systems;

f) Production systems which reduce or eliminate the use of black plastic;

g) Irrigation modernization and other water and energy conservation strategies;

h) Practices that predict and preempt insect pressure and outcompete invasive weed species, rather than using fossil-fuel based pesticides and delivery systems;

i) Climate-related wildfire prevention on agricultural and range lands.

4. Build on ODA's planned [Soil Health Baseline Assessment](#) and other existing tools to guide policy and program priorities:

a) Expand the planned [Soil Health Baseline Assessment](#) to include soil microbial health;

b) Use the Moore et al. report, "[Potential for Conservation Practices to Reduce Greenhouse Gas Emissions and Sequester Carbon on Croplands and Grazing Lands in Oregon](#)," as a reference guide for generating priorities and identifying research needs;

c) Use existing estimating and mapping tools to estimate the potential for soil carbon sequestration on agricultural lands.

5. Encourage the Oregon Legislature to adopt Healthy Soils Legislation that would create a Soil Health Grant Program or other incentive programs to fund the implementation of soil health practices including those that promote carbon sequestration. Consider models from other states

such as New Mexico, Washington and California. In addition to funding for implementation of practices, the Program should include funding for research, education, demonstration, and technical assistance. The Program structure should provide technical assistance to BIPOC producers

for the grant application process; prioritize distribution of funding to historically disadvantaged communities; and support community-based and urban farm projects supporting youth and

BIPOC

farmers.

6. Support Oregon's Land Use Planning Program and other efforts to protect Oregon's agricultural and other natural and working lands, to reduce GHG emissions and assure their potential for carbon sequestration, in ways such as:

a) Significantly reducing the number of non-agriculture related uses permitted on lands zoned "exclusive farm use" (EFU) and allowing the conversion of these lands to non resource uses only under limited circumstances;

b) Maintaining compact urban growth boundaries, allowing expansion onto natural and working lands only when proven necessary;

c) Preventing and/or mitigating impacts of major public and private facilities such as highways, pipelines, energy production and storage, etc.;

d) Providing sustainable funding for the Oregon Agricultural Heritage Program;

e) Supporting land trusts and other organizations engaged in farmland conservation, farm and ranch succession planning, and assistance and support to new farmers.

7. When natural and working lands are proposed for conversion to non-resource uses, or when major public facilities are proposed, the decision-making criteria shall include an assessment and

mitigation of climate impacts, including greenhouse gas emission consequences and loss of carbon

sequestration potential.

3

WATER AND WATERSHED HEALTH

Policy:

Develop watershed health and management plans and programs from a climate perspective. These plans and programs should address carbon sequestration, greenhouse gas emissions reductions, and associated co-benefits such as forest health, groundwater storage, improved watershed health and water quality, and enhanced fish and wildlife habitat.

Practices and Incentives

1. Preserve, restore, and protect floodplains, wetlands, riparian buffers, and estuaries to promote carbon sequestration.

2. Encourage the Governor and the Legislature to fund the necessary staff positions and programs to support carbon sequestration, emissions reduction, and other climate mitigation practices in Oregon's aquatic habitats.

3. State agencies should incorporate climate criteria into water agency grant programs and dedicate staff to incorporating climate change mitigation and sequestration objectives into agency programs.

Signed by member organizations of the Agriculture and Water Policy Sub-table of the Oregon Climate Action Plan (OCAP) Coalition,

Greg Holmes, Food Systems Program Director, 1000 Friends of Oregon

Addie Candib, Pacific Northwest Regional Director, American Farmland Trust

Lisa Arkin, Executive Director, Beyond Toxics
Ray Seidler, Cultivate Oregon
Amy Wong, Policy Director, Friends of Family Farmers
Jan Lee, Executive Director, Oregon Association of Conservation Districts
Megan Kemple, Co-Director, Oregon Climate and Agriculture Network
Karen Lewotsky, Rural Partnerships and Water Policy Director, Oregon Environmental Council
Ira
Cuello-Martinez, Climate Policy Associate, PCUN

Hello,

Attached are Oregon Wild's comments on the OGWC's Draft Strategy Recommendations for Natural and Working Lands. Please let me know if you have any follow up questions.

Cheers,

--

Lauren Anderson

she/her/hers

Forest Climate Policy Coordinator

Oregon Wild's Portland Office

la@oregonwild.org



Oregon Wild
Comment on OGWC I

To: Cc:	Chair Macdonald and the Oregon Global Warming Commission Oregon Department of Forestry, Oregon Board of Forestry
From: Lauren Anderson, Forest Climate Policy Coordinator, Oregon Wild	
Re:	Draft Strategy Recommendations for Natural and Working Lands

Date: 6/11/21

Dear Chair Macdonald and members of the Oregon Global Warming Commission,
Thank you for your leadership and ambition in identifying the practices, incentives and other policy options Oregon can pursue to achieve a new natural and working lands sequestration goal. A detailed policy roadmap is a necessary first step in ensuring Oregon is able to become a national leader in climate-smart land management.

The Governor stated that the *“Oregon Global Warming Commission is directed to submit a proposal to the Governor for consideration of adoption of state goals for carbon sequestration and storage by Oregon’s natural and working landscapes.”* I strongly encourage the Commission to take an accurate and comprehensive approach to this directive by ensuring policy recommendations are framed around Oregon’s **net** flux of CO₂ to the atmosphere. Such an approach requires accounting of emissions as well as sinks in policy development. As written in the outcome goals section on page 1, the Draft Strategy Recommendations call for: *“When possible, take a systems approach that starts with carbon sequestration in natural and working lands but integrates investments in GHG reduction across sectors.”* This language needs to clarify that reducing emissions from logging in the forestry sector is prioritized alongside increasing sequestration and storage in natural and working lands.

While emissions from many of Oregon’s other sectors are accounted for in Oregon’s Greenhouse Gas Reporting Program ([340-215-0010](#)), emissions from forestry are not. This gap in emissions accounting must be addressed as a first step in order for net carbon sequestration to be accurately measured. Therefore, the Commission should recommend that (via a new rulemaking through DEQ), forestry emissions and negative emissions (carbon sequestration) are included within Oregon’s Greenhouse Gas Reporting Program. Studies estimate that annual logging-related emissions have averaged 33 million metric tons of carbon dioxide equivalent per year since 2000 — which means that logging is the largest source of emissions in the state (more so than the 23 Mmt CO₂-e/yr attributed to transportation) ([Law et al 2018](#)). Without an accepted baseline and a focus on net sequestration, it will be challenging for the state to track progress on its emissions reduction goals.

Wood products remain a critical part of numerous U.S. industries, and there is a need for a sustainable timber industry. However, when it comes to measuring significant long-term climate and carbon benefits, the science is clear that the net value of wood products is quite limited. Logging in U.S. forests is one of the largest sources of emissions, emitting 617 million tons of CO₂ annually ([Harris et al 2016](#)). This is comparable to annual U.S. emissions from the residential and commercial sectors combined ([EPA GHG Calculator](#)). The total carbon impact of logging in the U.S. is even higher, since logging causes substantial reductions in carbon accumulation and storage potential in forests due to soil compaction and nutrient removal. These combined impacts can often reduce forest carbon storage potential by 30 percent or more ([Elliot et al. 1996](#), [Walmsley et al. 2009](#)). And while living trees do pull carbon from the atmosphere and store it, wood products do not offer the same climate benefits. Half of harvested carbon is emitted to the atmosphere soon after logging ([Harmon 2019](#)). In Oregon, 65 percent of wood carbon harvested since 1900 has returned to the atmosphere, and only 19 percent remains in long-term products ([Hudiburg et al. 2019](#)). Therefore, while the Commission’s report should strive to improve on current harvest practices and maximize carbon sequestration in long-lived wood products, this strategy is not a substitute for protecting mature and old growth forests as critical carbon sinks — this is where the true climate benefits lie.

A common yet inaccurate counterpoint to this science argues that forests will be more likely to burn as wildfire becomes more prevalent in a changing climate — and therefore removing the biomass and storing the carbon in buildings is our best, safest option as failing to do so risks all of the carbon being emitted when fires occur. But while wildfire is certainly a source of emissions, harvest-related emissions are 5-10 times higher than fire emissions in the West Coast states ([Law et al. 2018](#); [Hudiburg et al. 2019](#)). In Oregon and Washington states, 80 percent of tree mortality is due to harvest, compared with fire and bark beetles ([Berner et al. 2017](#)). And in Oregon and Washington, only 2–8 percent of tree mortality was caused by wildfire ([Berner et al. 2017](#)). These studies emphasize that while wildfire does

release carbon dioxide emissions, these emissions are still not comparable to logging in the Pacific Northwest. Emissions from logging in Oregon must be accounted for in the Commission's report. Below are additional policy considerations in response to the Commission's draft strategy recommendations that will help position Oregon as a national leader in climate-smart forestry:

1. Feedback on the Commission's recommendation to ***"Create a blue-ribbon panel to develop a strategic plan for extending rotations on state and private forest lands while maintaining or enhancing Oregon's milling infrastructure."*** There are numerous studies that show longer logging rotations increase fiber yield while also increasing carbon sequestration — a promising practice. However, the blue-ribbon panel should take a far more expansive view to reviewing climate-smart forestry practices, including greater green tree retention and larger riparian buffers.

2. Feedback on the Commission's recommendation to ***"Expand capacity to collect and store seed, grow seedlings, and plant and maintain trees on understocked forest lands."*** Forest restoration is a critical component of ensuring our forests are able to thrive in a rapidly changing climate. However, the term "restoration" has not always been applied in an ecologically appropriate manner. Planting "understocked forest lands" has often meant clearing native white oak stands and planting Douglas firs to benefit the timber industry. This is neither restoration nor a climate solution. Forest managers should focus efforts on the restoration or maintenance of essential ecosystem services, such as:

- Carbon storage and sequestration (e.g., promoting mature forest characteristics),
- Water quality and quantity (e.g., preventing soil erosion and avoiding tree plantations),
- Soil productivity (e.g., ensure burned vegetation remains on the landscape), and
- Biodiversity (e.g., preserving habitat for at risk wildlife).

3. Feedback on the Commission's recommendation to ***"Increase protections for mature and old growth forests through greater investments in fee land acquisitions and easement programs."*** It is excellent to see the commission recognize the need to increase protections for mature and old growth forests as a critical climate solution, and voluntary incentives for private landowners is an important part of this critical strategy. However, the focus on fee land acquisitions is far too limited. On public lands mature and old growth forests should be permanently protected as part of a climate reserve system, especially in Oregon's temperate rainforest region. This includes state forests, National Forests managed by the U.S. Forest Service, and Bureau of Land Management forests. These protections should be an immediate, commonsense first step this report recommends.

4. Feedback on the Commission's recommendation to ***"Expand the use of prescribed fire and targeted forest health treatments to reduce emissions from wildfire, reduce mortality from drought, prevent increased pest outbreaks, and make our forests and communities more resilient."*** Protecting communities from the growing risk of wildfire and other climate impacts should be a priority for all state agencies. Thinning is a labor intensive and expensive strategy for reducing wildfire risk, and thinning treatments should be focused in close proximity to communities with careful emphasis on environmental justice considerations. It is also valuable to note that this is a "climate adaptation" strategy as opposed to a "climate mitigation strategy." The practice of "targeted forest health treatments to reduce emissions from wildfire" is not supported by the evidence — emissions from logging to reduce fuels far exceed the emissions from fire.

In addition to prescribed fire and thinning treatments, the Commission should recognize the role managed fire will need to play in meeting forest restoration objectives. The state should partner with USFS and BLM to identify managed wildfire zones across the state on public lands. In California's southern Sierra Nevada, three national forests recently revised their forest plans and have developed strategic fire-management zones that greatly expand opportunities to manage wildfires for resource objectives ([North et al. 2021](#)).

In addition to above feedback, the Commission missed two key policy considerations that should be incorporated into their current report:

- Incentivize and expand Forest Stewardship Council (FSC) certified wood markets for private lands. FSC certified forests can store more carbon while producing more timber than the current industrial norm ([Diaz et al. 2018](#)).
- Recommend against the expansion of woody biomass without strict requirements for sourcing. A detailed analysis of biomass energy generation ([Manomet Center for Conservation Sciences. 2010](#)), compared the lifetime greenhouse gas effects of a continuous harvesting and replanting scenario to burning natural gas to generate the same energy. This analysis showed that, considering the first 35 years of operation, the biomass plant would have one and a half times the net CO2 emissions of a natural gas plant generating the same amount of energy. Based on this study and many others, incentivizing biomass energy generation will put Oregon further behind on its current 2050 greenhouse gas goals.

With ambitious policies, Oregon can increase the net ecosystem carbon balance in its forests by as much as 56 percent by 2100 ([Law et al 2018](#)), and the Commission should seek to recognize this potential in their report.

Sincerely,

Lauren Anderson

Forest Climate Policy Coordinator

Oregon Wild

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Director of Policy Advocacy, Development and Operations

541-342-1537 (home office)

megan@oregonclimateag.org

www.oregonclimateag.org

My regular schedule with OrCAN is Monday-Friday 1pm-5pm

From: Nora Apter [<mailto:noraa@oeconline.org>]

Sent: Tuesday, June 15, 2021 10:47 AM

To: Megan Kemple, OrCAN <megan@oregonclimateag.org>; Grace Brahler <gbrahler@beyondtoxics.org>

Cc: Lauren Anderson <la@oregonwild.org>

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Nora Apter (*she, her*)
Climate Program Director

Oregon Environmental Council

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June 16, 2021

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Facilitate multi-stakeholder collaboration, both public and private, to advance these

recommendations and engage in soil health, carbon sequestration and climate resiliency programs that would benefit Oregon's agricultural lands and watersheds. Stakeholder engagement must include: farmers and ranchers engaged in a variety of types of agricultural practices including organic, conventional, regenerative and sustainable practices; BIPOC producers and farmworkers; soil and climate scientists; environmental and water advocates. Engage stakeholders including local governments, irrigation districts, state and federal agencies and non-governmental organizations, etc. Engage in regional discussions considering collaborative and multi-state efforts.

AGRICULTURE

Policy:

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Practices and Incentives

1. Develop and periodically update an Oregon Agriculture Climate Resiliency and Mitigation Plan as a basis to strategically plan and implement future sequestration and emission goals and respond to existing and future climate impacts.
2. Support expansion of technical assistance by state and federal agencies, soil and water conservation districts, Oregon State University Extension, and non-governmental organizations to promote soil health practices that contribute to carbon sequestration such as:
 - a) reduced tillage or no-till,
 - b) rotational grazing,
 - c) cover cropping,
 - d) mulch and compost application,
 - e) hedgerow and riparian plantings,
 - f) silvopasture or agroforestry,
 - g) growth of deep rooted annual and perennial crops and rangeland grasses, h) reduced and selective chemical inputs,
 - i) diversified cropping systems, and
 - j) other organic and regenerative practices.
3. Invest in programs to support adoption of practices which reduce GHG emissions or otherwise mitigate climate change:

- a) Climate friendly nutrient management to reduce nitrous oxide emissions;
- b) Alternative manure management in dairy, poultry and livestock production;
- c) Organic waste composting systems;
- d) Sustainable and organic production systems;
- e) On farm strategies to reduce fossil fuel use such as reduced tillage and renewable energy systems;
- f) Production systems which reduce or eliminate the use of black plastic;
- g) Irrigation modernization and other water and energy conservation strategies;
- h) Practices that predict and preempt insect pressure and outcompete invasive weed species, rather than using fossil-fuel based pesticides and delivery systems;
- i) Climate-related wildfire prevention on agricultural and range lands.

4. Build on ODA's planned [Soil Health Baseline Assessment](#) and other existing tools to guide policy and program priorities:

- a) Expand the planned [Soil Health Baseline Assessment](#) to include soil microbial health;
- b) Use the Moore et al. report, "[Potential for Conservation Practices to Reduce; Greenhouse Gas Emissions and Sequester Carbon on Croplands and Grazing Lands in Oregon,](#)" as a reference guide for generating priorities and identifying research needs;
- c) Use existing estimating and mapping tools to estimate the potential for soil carbon sequestration on agricultural lands.

5. Encourage the Oregon Legislature to adopt Healthy Soils Legislation that would create a Soil Health Grant Program or other incentive programs to fund the implementation of soil health practices including those that promote carbon sequestration. Consider models from other states

such as New Mexico, Washington and California. In addition to funding for implementation of practices, the Program should include funding for research, education, demonstration, and technical assistance. The Program structure should provide technical assistance to BIPOC producers

for the grant application process; prioritize distribution of funding to historically disadvantaged communities; and support community-based and urban farm projects supporting youth and BIPOC farmers.

6. Support Oregon's Land Use Planning Program and other efforts to protect Oregon's agricultural and other natural and working lands, to reduce GHG emissions and assure their potential for carbon sequestration, in ways such as:

- a) Significantly reducing the number of non-agriculture related uses permitted on lands zoned "exclusive farm use" (EFU) and allowing the conversion of these lands to non resource uses only under limited circumstances;
- b) Maintaining compact urban growth boundaries, allowing expansion onto natural and working lands only when proven necessary;
- c) Preventing and/or mitigating impacts of major public and private facilities such as highways, pipelines, energy production and storage, etc.;

- d) Providing sustainable funding for the Oregon Agricultural Heritage Program;
 - e) Supporting land trusts and other organizations engaged in farmland conservation, farm and ranch succession planning, and assistance and support to new farmers.
7. When natural and working lands are proposed for conversion to non-resource uses, or when major public facilities are proposed, the decision-making criteria shall include an assessment and mitigation of climate impacts, including greenhouse gas emission consequences and loss of carbon sequestration potential.

3

WATER AND WATERSHED HEALTH

Policy:

Develop watershed health and management plans and programs from a climate perspective. These plans and programs should address carbon sequestration, greenhouse gas emissions reductions, and associated co-benefits such as forest health, groundwater storage, improved watershed health and water quality, and enhanced fish and wildlife habitat.

Practices and Incentives

1. Preserve, restore, and protect floodplains, wetlands, riparian buffers, and estuaries to promote carbon sequestration.
2. Encourage the Governor and the Legislature to fund the necessary staff positions and programs to support carbon sequestration, emissions reduction, and other climate mitigation practices in Oregon's aquatic habitats.
3. State agencies should incorporate climate criteria into water agency grant programs and dedicate staff to incorporating climate change mitigation and sequestration objectives into agency programs.

Signed by member organizations of the Agriculture and Water Policy Sub-table of the Oregon Climate Action Plan (OCAP) Coalition,

Greg Holmes, Food Systems Program Director, 1000 Friends of Oregon

Addie Candib, Pacific Northwest Regional Director, American Farmland Trust

Lisa Arkin, Executive Director, Beyond Toxics

Ray Seidler, Cultivate Oregon

Amy Wong, Policy Director, Friends of Family Farmers

Jan Lee, Executive Director, Oregon Association of Conservation Districts

Megan Kemple, Co-Director, Oregon Climate and Agriculture Network

Karen Lewotsky, Rural Partnerships and Water Policy Director, Oregon Environmental Council

Ira

Cuello-Martinez, Climate Policy Associate, PCUN

Hello,

Attached are Oregon Wild's comments on the OGWC's Draft Strategy Recommendations for Natural and Working Lands. Please let me know if you have any follow up questions.

Cheers,

--

Lauren Anderson

she/her/hers

Forest Climate Policy Coordinator

Oregon Wild's Portland Office

la@oregonwild.org



Oregon Wild
Comment on OGWC I

To: Cc:	Chair Macdonald and the Oregon Global Warming Commission Oregon Department of Forestry, Oregon Board of Forestry
From: Lauren Anderson, Forest Climate Policy Coordinator, Oregon Wild	
Re:	Draft Strategy Recommendations for Natural and Working Lands

Date: 6/11/21

Dear Chair Macdonald and members of the Oregon Global Warming Commission,
Thank you for your leadership and ambition in identifying the practices, incentives and other policy options Oregon can pursue to achieve a new natural and working lands sequestration goal. A detailed policy roadmap is a necessary first step in ensuring Oregon is able to become a national leader in climate-smart land management.

The Governor stated that the *“Oregon Global Warming Commission is directed to submit a proposal to the Governor for consideration of adoption of state goals for carbon sequestration and storage by Oregon’s natural and working landscapes.”* I strongly encourage the Commission to take an accurate and comprehensive approach to this directive by ensuring policy recommendations are framed around Oregon’s **net** flux of CO2 to the atmosphere. Such an approach requires accounting of emissions as well as sinks in policy development. As written in the outcome goals section on page 1, the Draft Strategy Recommendations call for: *“When possible, take a systems approach that starts with carbon sequestration in natural and working lands but integrates investments in GHG reduction across sectors.”* This language needs to clarify that reducing emissions from logging in the forestry sector is prioritized alongside increasing sequestration and storage in natural and working lands.

While emissions from many of Oregon’s other sectors are accounted for in Oregon’s Greenhouse Gas Reporting Program ([340-215-0010](https://www.oregon.gov/DEQ/REGISTRATION/REGISTRATION/Pages/340-215-0010.aspx)), emissions from forestry are not. This gap in emissions accounting must be addressed as a first step in order for net carbon sequestration to be accurately measured.

Therefore, the Commission should recommend that (via a new rulemaking through DEQ), forestry emissions and negative emissions (carbon sequestration) are included within Oregon's Greenhouse Gas Reporting Program. Studies estimate that annual logging-related emissions have averaged 33 million metric tons of carbon dioxide equivalent per year since 2000 — which means that logging is the largest source of emissions in the state (more so than the 23 Mmt CO₂-e/yr attributed to transportation) (Law et al 2018). Without an accepted baseline and a focus on net sequestration, it will be challenging for the state to track progress on its emissions reduction goals.

Wood products remain a critical part of numerous U.S. industries, and there is a need for a sustainable timber industry. However, when it comes to measuring significant long-term climate and carbon benefits, the science is clear that the net value of wood products is quite limited. Logging in U.S. forests is one of the largest sources of emissions, emitting 617 million tons of CO₂ annually (Harris et al 2016). This is comparable to annual U.S. emissions from the residential and commercial sectors combined (EPA GHG Calculator). The total carbon impact of logging in the U.S. is even higher, since logging causes substantial reductions in carbon accumulation and storage potential in forests due to soil compaction and nutrient removal. These combined impacts can often reduce forest carbon storage potential by 30 percent or more (Elliot et al. 1996, Walmsley et al. 2009). And while living trees do pull carbon from the atmosphere and store it, wood products do not offer the same climate benefits. Half of harvested carbon is emitted to the atmosphere soon after logging (Harmon 2019). In Oregon, 65 percent of wood carbon harvested since 1900 has returned to the atmosphere, and only 19 percent remains in long-term products (Hudiburg et al. 2019). Therefore, while the Commission's report should strive to improve on current harvest practices and maximize carbon sequestration in long-lived wood products, this strategy is not a substitute for protecting mature and old growth forests as critical carbon sinks — this is where the true climate benefits lie.

A common yet inaccurate counterpoint to this science argues that forests will be more likely to burn as wildfire becomes more prevalent in a changing climate — and therefore removing the biomass and storing the carbon in buildings is our best, safest option as failing to do so risks all of the carbon being emitted when fires occur. But while wildfire is certainly a source of emissions, harvest-related emissions are 5-10 times higher than fire emissions in the West Coast states (Law et al. 2018; Hudiburg et al. 2019). In Oregon and Washington states, 80 percent of tree mortality is due to harvest, compared with fire and bark beetles (Bernier et al. 2017). And in Oregon and Washington, only 2–8 percent of tree mortality was caused by wildfire (Bernier et al. 2017). These studies emphasize that while wildfire does release carbon dioxide emissions, these emissions are still not comparable to logging in the Pacific Northwest. Emissions from logging in Oregon must be accounted for in the Commission's report. Below are additional policy considerations in response to the Commission's draft strategy recommendations that will help position Oregon as a national leader in climate-smart forestry:

1. Feedback on the Commission's recommendation to ***“Create a blue-ribbon panel to develop a strategic plan for extending rotations on state and private forest lands while maintaining or enhancing Oregon's milling infrastructure.”*** There are numerous studies that show longer logging rotations increase fiber yield while also increasing carbon sequestration — a promising practice. However, the blue-ribbon panel should take a far more expansive view to reviewing climate-smart forestry practices, including greater green tree retention and larger riparian buffers.

2. Feedback on the Commission's recommendation to ***“Expand capacity to collect and store seed, grow seedlings, and plant and maintain trees on understocked forest lands.”*** Forest restoration

is a critical component of ensuring our forests are able to thrive in a rapidly changing climate. However, the term “restoration” has not always been applied in an ecologically appropriate manner. Planting “understocked forest lands” has often meant clearing native white oak stands and planting Douglas firs to benefit the timber industry. This is neither restoration nor a climate solution. Forest managers should focus efforts on the restoration or maintenance of essential ecosystem services, such as:

- Carbon storage and sequestration (e.g., promoting mature forest characteristics),
- Water quality and quantity (e.g., preventing soil erosion and avoiding tree plantations),
- Soil productivity (e.g., ensure burned vegetation remains on the landscape), and
- Biodiversity (e.g., preserving habitat for at risk wildlife).

3. Feedback on the Commission’s recommendation to **“Increase protections for mature and old growth forests through greater investments in fee land acquisitions and easement programs.”**

It is excellent to see the commission recognize the need to increase protections for mature and old growth forests as a critical climate solution, and voluntary incentives for private landowners is an important part of this critical strategy. However, the focus on fee land acquisitions is far too limited. On public lands mature and old growth forests should be permanently protected as part of a climate reserve system, especially in Oregon’s temperate rainforest region. This includes state forests, National Forests managed by the U.S. Forest Service, and Bureau of Land Management forests. These protections should be an immediate, commonsense first step this report recommends.

4. Feedback on the Commission’s recommendation to **“Expand the use of prescribed fire and targeted forest health treatments to reduce emissions from wildfire, reduce mortality from drought, prevent increased pest outbreaks, and make our forests and communities more resilient.”** Protecting communities from the growing risk of wildfire and other climate impacts should be a priority for all state agencies. Thinning is a labor intensive and expensive strategy for reducing wildfire risk, and thinning treatments should be focused in close proximity to communities with careful emphasis on environmental justice considerations. It is also valuable to note that this is a “climate adaptation” strategy as opposed to a “climate mitigation strategy.” The practice of “targeted forest health treatments to reduce emissions from wildfire” is not supported by the evidence — emissions from logging to reduce fuels far exceed the emissions from fire.

In addition to prescribed fire and thinning treatments, the Commission should recognize the role managed fire will need to play in meeting forest restoration objectives. The state should partner with USFS and BLM to identify managed wildfire zones across the state on public lands. In California’s southern Sierra Nevada, three national forests recently revised their forest plans and have developed strategic fire-management zones that greatly expand opportunities to manage wildfires for resource objectives ([North et al. 2021](#)).

In addition to above feedback, the Commission missed two key policy considerations that should be incorporated into their current report:

- Incentivize and expand Forest Stewardship Council (FSC) certified wood markets for private lands. FSC certified forests can store more carbon while producing more timber than the current industrial norm ([Diaz et al. 2018](#)).
- Recommend against the expansion of woody biomass without strict requirements for sourcing. A detailed analysis of biomass energy generation ([Manomet Center for Conservation Sciences](#)).

2010), compared the lifetime greenhouse gas effects of a continuous harvesting and replanting scenario to burning natural gas to generate the same energy. This analysis showed that, considering the first 35 years of operation, the biomass plant would have one and a half times the net CO2 emissions of a natural gas plant generating the same amount of energy. Based on this study and many others, incentivizing biomass energy generation will put Oregon further behind on its current 2050 greenhouse gas goals.

With ambitious policies, Oregon can increase the net ecosystem carbon balance in its forests by as much as 56 percent by 2100 (Law et al 2018), and the Commission should seek to recognize this potential in their report.

Sincerely,

Lauren Anderson

Forest Climate Policy Coordinator

Oregon Wild

Chair Macdonald, members of the Oregon Global Warming Commission, and partners at Oregon Department of Agriculture and Oregon Watershed Enhancement Board,

Please find attached Oregon Climate and Agriculture Network's feedback on the OGWC's draft strategy recommendations for the NWL goal, as well as our original recommendations. Thank you so much for your consideration of this additional feedback.

We look forward to reviewing and providing input on the OGWC's draft Report in mid-July.

Please post the timeline and process for providing input on the OGWC's draft Report on the website as soon as possible.

We appreciate the many opportunities for stakeholder engagement in this process.



OrCAN's feedback on
OGWCs 5-25-21 draft

Date: June 8, 2021

To: Oregon Global Warming Commission (OGWC)

From: Megan Kemple, Co-Director, Oregon Climate and Agriculture Network (OrCAN)

Re: Feedback on the OGWC's [Draft Strategy Recommendations dated 5-25-21](#)

Oregon Climate and Agriculture Network (OrCAN) provided written recommendations for practices, incentives and other policy options Oregon should pursue to achieve a natural and working lands emissions and sequestration goal, via email to the OGWC and state agencies on May 7, 2021. Our recommendations are attached again, here.

I have reviewed the [Draft Strategy Recommendations](#) posted for the June 4th OGWC meeting. We are pleased to see so many of the strategies that we recommended reflected in the Commission's draft, and really appreciate the many opportunities we've had to provide input during this process. Still, we think that there are several areas where the draft strategies could be strengthened. Some of these suggestions below will be familiar, because they were also included in feedback provided by the Oregon Climate Action Plan Coalition, and other suggestions below are unique to OrCAN's perspective.

We are really pleased to see the recommendations for investments the Legislature should make for the 2021-2023 biennium, and agree they are all important. If the following are not prioritized by the legislature in the 2021 legislative session, or funded through other sources they should be prioritized in the 2022 short session:

- Develop a natural and working lands implementation plan
- Improvements to Oregon's natural and working lands inventory data
- OWEB's request for the Oregon Agricultural Heritage Program
- Oregon Department of Agriculture's request for funding for a Soil Health Specialist

We appreciate the focus on farmer-to-farmer learning in the description of Oregon Department of Agriculture's Soil Health Specialist position description. This will be important.

We appreciate the inclusion of Strategy 1) Develop a natural and working lands implementation plan. In addition to input from advisors, additional stakeholder engagement, both public and private will be needed to provide input on the Plan as well as programs that may be developed. Ensure the inclusion of BIPOC farmers in decision-making in program development and implementation, including access to any funding.

We would like more clarity on Strategy 2) Design and support the creation of centers of excellence for research on sequestration in natural and working lands in Oregon.

As currently written, we are not clear what "centers of excellence" means.

We appreciate the inclusion of Strategy 6) Invest in Climate Smart Agricultural practices on Oregon's crop and rangelands. Related to this strategy:

- We encourage you to be specific about the importance of providing incentives *directly to farmers and ranchers* in the form of grants.
- We noticed reference to a number of soil health practices, but no reference to rotational grazing or other practices specific to pasture and rangelands. We encourage you to include pasture and rangelands in your strategies.
- Farmers need access to free/reduced-cost soil health testing (including soil biology) to

help them understand the state of their soils, the potential for improving soil health on their land, assist researchers in linking management practices to outcomes, and potentially provide baseline data for carbon markets. Farmers also want training to help them learn soil health field assessment.

The OGWC's strategy recommendations should include building on ODA's planned [Soil Health Baseline Assessment](#) and other existing tools to guide policy and program priorities:

- Expand the planned [Soil Health Baseline Assessment](#) to include microbial health
- Use Moore, et al's report "[Potential for Conservation Practices to Reduce Greenhouse Gas Emissions and Sequester Carbon on Croplands and Grazing Lands in Oregon](#)" as a reference guide for generating priorities and identifying research needs;
- Use existing tools including American Farmland Trust's CaRPE tool and Ecotrust's mapping tool to estimate the potential for soil carbon sequestration on agricultural lands;
- Ground truth CaRPE modeling exercises by region, with on the ground interviews with NRCS, SWCDs, and producers to better understand past successes and challenges in adoption of practices; and
- Work in collaboration with NRCS to calibrate the COMET model for Oregon.

Emissions reductions are important as well. Provide funding to support the adoption of other practices that reduce emissions or otherwise mitigate climate change including practices which reduce fossil fuel usage or generate renewable energy, such as on-farm renewable energy use, and modernizing irrigation systems to conserve and produce energy.

We appreciate the many opportunities for stakeholder engagement in this process, however it has been unclear exactly when and how we'll be given the opportunity to provide input on draft recommendations. Please post the timeline and process for providing input on the OGWC's draft Report on the website as soon as possible.

www.oregonclimateag.org



OrCAN's policy
recommendations for

Recommended Practices, Policies and Programs to Sequester Carbon and Reduce Emissions on Oregon's Agricultural Lands May 7, 2021

Agriculture plays an important role in the solution to climate change. According to the International Panel on Climate Change, we cannot reach our goals to cool the planet without investing in carbon sequestration strategies¹. Agriculture provides one of the most ready, cost effective pathways for carbon sequestration. Agricultural practices that mitigate climate change provide co-benefits including: improved soil health to sustain agriculture and enhance the profitability of farmers and ranchers, water conservation, and improved wildlife habitat.

Farmers and ranchers are on the front lines of both the impacts of climate change and being part of the solution. Oregon Climate and Agriculture Network (OrCAN) has engaged with a wide range of producers to better understand the barriers and opportunities to implementing practices that mitigate climate change. We heard loud and clear from producers that they are interested in better technical assistance and education opportunities. Technical assistance in many areas to date has not provided a holistic, soil health-driven approach to farm planning. Producers want to know more about how to produce healthy soil, not just crops. As one producer put it, “On soil health I want to know where am I right now? Where can I go? What’s going to help me get there?” There’s interest in having producer-driven research lead the way to better understand how practices can work on the ground in each region for more specific crop types. Financial incentives are important, but they must be provided in a streamlined, simplified way. These programs will require a source of sustainable funding.

From our work with Black, Indigenous and other Farmers of Color, we know that we have to create an equity lens for all the decisions we make big and small. We have weaved in their specific recommendations throughout this document. As the OGWC moves forward on developing policies and programs we hope they can use the following questions at every step of the way: Who are we centering in this decision? Who are we leaving out? How are people that might be affected included in our decision making? How does this advance racial, gender, cultural, class, and/or geographic equity? ²

¹ “In the recent IPCC Special Report SR15, agriculture and food was again identified as both a significant contributor to and potential mitigation strategy for climate change. The report highlighted that it is vital that we develop removal solutions, in addition to reduction strategies, because all 1.5°C emissions pathways rely upon carbon removal to some extent. Regenerative agriculture production methods is one of the best known removal solutions we have currently.” (Source: Barriers For Farmers & Ranchers To Adopt Regenerative Ag Practices In The US: Identifying Key Levers and Opportunities-A Roadmap For Funders and Stakeholders by Jennifer O’Connor, Guidelight Strategies. August 2020)

² Developed by the Oregon Community Food Systems Network’s Diversity, Equity and Inclusion Committee

We recommend that the Oregon Global Warming Commission propose a goal to: Increase adoption of agricultural practices that have the potential sequester carbon in the soil and reduce GHG emissions.

Below we have done our best to answer the question: “What practices, policies and programs should Oregon pursue to achieve a natural and working lands emissions and sequestration goal?” and we have provided issues to consider for some of them.

Agricultural practices that have the potential to sequester carbon in the soil and/or reduce emissions on farms and ranches:

- no till and reduced tillage
- cover cropping
- strip cropping
- compost application (or other organic amendments like biochar)
- mulching
- rotational grazing
- conservation crop rotation

- hedgerow and riparian plantings
- silvopasture and agroforestry
- climate-friendly nutrient management
- composting of manure and other organic “wastes”
- sustainable and organic production systems

Additional strategies to reduce fossil fuel usage or generate renewable energy:

- on-farm renewable energy use, both infrastructure and technology upgrades
- modernizing irrigation systems to conserve and produce energy

Recommendation #1

Support expansion of education and technical support to beginning farmers and those who are newly transitioning to implementing practices with the potential to sequester carbon in the soil and reduce greenhouse gas emissions, listed above in the Practices section. Expand support provided by experienced producers, Soil and Water Conservation Districts, OSU Extension, non-profits, and/or ODA in these areas:

- Support on-farm demonstrations, mentoring, communities of practice and educational/informational resources and outreach.
- Free/reduced-cost soil health testing (including soil biology) to help producers understand the state of their soils, the potential for improving soil health on their land, assist researchers in linking management practices to outcomes, and potentially provide baseline data for carbon markets.
- Increased capacity for soil health technicians to work on behalf of the state to support Oregon’s farmers and ranchers including: BIPOC producers, tribal liaisons, those in all parts of the state, and range and pasture soils.

Issues to consider:

Farmers learn best from the successful examples from other farmers through farm visits, demonstrations, consultations and mentorship from experienced farmers, and case studies of working farms.

While most of the producers we spoke with indicated that mentorship was more valuable than technical assistance, they also provided feedback on how technical assistance could be best delivered. Some producers would like to see more remote learning opportunities like e-campus modules, made accessible to producers through state funded research universities. Several of OrCAN’s producers expressed interest in increased need for support from SWCDs, OSU Extension, and/or NRCS, but other producers, specifically BIPOC producers recognized that these entities don’t support everyone and can be exclusive. Providing a variety of technical assistance options will be best to meet farmers where they are at and will be more likely to provide what they need. We recommend focusing on providing funding to farmer mentors and training the trainers (for example OSU Extension and SWCD staff).

Mentorship and technical support must be specific and consistent over time. We recommend providing support for two to four years during adoption of new practices.

Case studies are an example of educational resources which can provide roadmaps for transition challenges.

Farmers value knowledge about their soils and want both training in field indicators for soil health as well as more access to soil testing. Farmers consider soil testing to be a significant expense and want support paying for soil testing. Policymakers and funders should invest in upgrading regional soil testing lab infrastructure to make sure that Extension labs are able to provide affordable soil health assessment long-term. Farmers also want training to help them learn soil health field assessment.

Recommendation #2

Build on ODA's planned [Soil Health Baseline Assessment](#) and other existing tools to guide policy and program priorities:

- Expand the planned [Soil Health Baseline Assessment](#) to include microbial health
- Use Moore, et al's report "[Potential for Conservation Practices to Reduce Greenhouse Gas Emissions and Sequester Carbon on Croplands and Grazing Lands in Oregon](#)" as a reference guide for generating priorities and identifying research needs;
- Use existing tools including American Farmland Trust's CaRPE tool and Ecotrust's mapping tool to estimate the potential for soil carbon sequestration on agricultural lands;
- Ground truth CaRPE modeling exercises by region, with on the ground interviews with NRCS, SWCDs, and producers to better understand past successes and challenges in adoption of practices; and
- Work in collaboration with NRCS to calibrate the COMET model for Oregon.

Issues to consider:

- Use the information provided in these assessments and inventories. We don't want these reports to sit on a shelf. These resources can drive policy and investments in the future.
- Prioritize regions with poor soil quality, for example east of the Cascades.
- It's important to include and consider range and pasture lands in addition to crop land.
- Use existing tools or resources developed by NRCS. Collaborate with NRCS to develop additional tools and resources.

Recommendation #3

Provide funding to support the adoption of other practices that reduce emissions or otherwise mitigate climate change, listed above in the Practices section.

Recommendation #4

Create a sustained source of funding for research on climate change and climate mitigation strategies on Oregon's agricultural lands.

Issues to consider:

On-farm demonstrations and trials, as well as trials and research at experiment stations are both needed. There has been a lot of research done on productivity. There's a need for more research on maximizing soil carbon.

Research needs to be leading the way, to make sure we're investing our limited resources effectively.

Recommendation #5

Encourage the legislature to adopt Healthy Soils legislation to create a Soil Health Grant Program including:

- Incentives, such as grants, for implementation of soil health practices that promote carbon sequestration, listed above in the Practices section;
- Support for on-farm demonstrations, mentoring, communities of practice and educational/informational resources and outreach as described in recommendation #1.

Issues to consider:

Incorporate lessons learned from California's Healthy Soils Grant Program. OrCAN can provide these lessons learned.

A focus on soil health and additional co-benefits, rather than carbon sequestration, will make this program more relevant to farmers and ranchers and more politically viable. We may want to have a suite of different motivators/ incentives that could speak to different decisionmakers. Other options for financial incentives explored in other states include property tax exemptions or rebates, and reduced crop insurance rates.

Farmers want and need more support to access existing financial assistance. Technical assistance for completing grant applications with very few requirements of the producer, except for adoption of the practices, will be important. Policymakers and funders should evaluate the administrative task load for existing and proposed financial assistance programs and consider minimum base payments that level the playing field and encourage participation from small-acreage producers. Direct-to-producer grants and micro-grants are a useful tool to help farmers of all scales access equipment and cover transition-related cost increases.

Adopting a new healthy soils practice involves uncertainty, risk and a learning curve. Farmers need financial assistance for a minimum of two years and up to four years during adoption of new practices. But at the same time incentive programs must be designed to compensate innovators, pioneers and long-term practitioners and not be based solely on proof of "additionality".

Soil sample requirements are problematic and are a barrier. Incentive programs should rely on modeling to provide the carbon sequestration potential of a practice. Incentives need to be available to producers who lease their land in addition those who own their land.

Consider how payments should be made for example: per ton of carbon sequestered, by practice or by acre. Acreage-based payment structures leave out smaller-scale farmers.

The inclusion of rangeland will be important.

Ensure we are not leaving federal dollars on the table and are leveraging existing funding rather than creating new grant programs, where resources already exist. We recommend funding for a state soil health program be administered by OWEB and distributed through SWCDs, because of their existing role as funders and resource providers.

Recommendation #6

Facilitate multi-stakeholder collaboration, both public and private, to advance the recommendations above.

Issues to consider:

Producers, especially BIPOC producers, as well as farmworkers, are important stakeholders

and need to be heard and included in this stakeholder engagement process.

Recommendation #7

Fund the [Oregon Agriculture Heritage Program](#) to protect agricultural lands. Studies have shown that an acre of farmland provides “58-70 times fewer greenhouse gas emissions than an acre of urban land.”³

Some of the “issues to consider”, included above, were provided by the National Organic Farming Association in their Report: Farmers Share Experiences and Challenges Adopting Healthy Soils Practices.

These recommendations were drafted by:

Megan Kemple and Ashley Rood, Co-Directors, Oregon Climate and Agriculture Network

Contact: megan@oregonclimateag.org

www.oregonclimateag.org

³Source: Greener Fields: California Communities Combating Climate Change. American Farmland Trust.

Megan Kemple, Co-Director, Oregon Climate and Agriculture Network (OrCAN)

Director of Policy Advocacy, Development and Operations

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My regular schedule with OrCAN is Monday-Friday 1pm-5pm

Sent via form submission from [Keep Oregon Cool](#)

Name: Andrew Butz

Email Address: anbunz@yahoo.com

Subject: Exec. Order 20-04, Forest Climate Policy

Message: Dear Chair MacDonald & Oregon Global Warming Commission:

Please adopt climate smart forestry practices for State & private lands to meet Forest Stewardship Council standards. These include....

* Using best available science for all forest management practices to ensure our forests' long term

ecological health.

- * Adopting practices adapted to the various climate & geographic regions of our state.
- * Longer logging rotations – at least 80 years for our Douglas Fir forests;
- * Increasing retention of green, greater diversity trees after logging;
- * Eliminating logging in our most biologically significant, carbon rich, mature & old growth forests.
- * Managing forests to protect our water resources for people & wildlife.
- * Providing incentives for small forest landowners to implement such practices on their lands.

Please be bold & ambitious, and do all you can to make Oregon a national leader in using natural climate solutions to address our climate crisis.

Thank you for considering my input.