Public Comment
ODF Draft Climate Change and Carbon Plan

Sent: Wednesday, July 07, 2021 10:07 AM
Subject:Comments for the draft Climate Change and Carbon Plan
Name Scott John Hoelscher
I wish to declare my support for the development of Oregon's Climate Change and Carbon Plan. In particular, I want there to be a commitment to and emphasis on several points: 1. Allowing more trees to remain standing on logging sites, and eliminating the practice of clearcutting 2. Making all old-growth forests off limits to logging 3. Creating and implementing practices that make communities better protected and prepared for fire events

Public Comment
ODF Draft Climate Change and Carbon Plan

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Sent: Sunday, July 04, 2021 10:19 PM
Subject:Comments for the draft Climate Change and Carbon Plan
Name christopher cornett
Comment/question
I don't believe that we have a accurate database to manage our climate change and carbon plan. It is not only not accurate but fails to include social and cultural information .It will be the most difficult to make a good choice for the future.

Public Comment
ODF Draft Climate Change and Carbon Plan

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From: Alan Journet
Sent: Sunday, July 04, 2021 6:20 PM
Subject:Offsets in the DEQ Climate Protection Program

As you know, during the development of its climate protection program, Oregon's DEQ has been developing rules to govern how the Climate Investment component will work. This is the feature of the program where polluting entities are able to offset some of their Greenhouse Gas emissions by investing in projects that are effective at addressing the problem of the rising atmospheric concentration of GHGs.

As these discussions and rules have been developing, 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 in the Community Climate Investment component 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:

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 sequestration of carbon from the atmosphere would be incorporated as an option. Them during RAC4 (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 is that carbon sequestration would be included.

Then, when the rules appeared during RAC6, we found the options had been revised: "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 restriction.

Subsequently, in conversation with interested RAC members, it was revealed that, indeed, the Community Climate Investment option would be limited to projects that reduce emissions.

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 assumes 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. It is anticipated that Oregon's agricultural lands could also benefit from the option to allow polluters to invest in regenerative agriculture projects that could trap substantial quantities of carbon from the atmosphere in our soils and, as a bonus, improve the health of those soils.

My concern is that unless agencies promoting offsets, and members of the public wanting offsets to be included, contact DEQ and stress the importance of their inclusion, this option may no longer be available. This, undoubtedly, would put a serious dent in ODFs efforts. It is this vein that I write. If you read my comments on the ODF draft plan, you will have seen that I mentioned this problem. However, in case you didn't get to it yet, I wanted to draw it to your attention as a matter of urgency since the RAC 7 meeting is this week, and DEQ seems to be finalizing its rules.

Be happy to talk about what I know, but you now have pretty much all the intelligence I have.
All the best,
Alan Journet
Co-facilitator
Southern Oregon Climate Action Now (SOCAN)

Public Comment
ODF Draft Climate Change and Carbon Plan

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From: Pete Caligiuri
Sent: Friday, July 02, 2021 1:06 PM
Subject:TNC Comments to ODF Draft Climate Change and Carbon Plan
Attachments: TNC Comments to ODF Draft CCCP_7-2-21.pdf

Good afternoon Danny,

Please find attached TNC's comments on the draft ODF Climate Change and Carbon Plan, and feel free to reach out if you have any questions or wish to discuss further.

We appreciate the efforts you and others are taking to integrate climate change into ODF's work, and look forward to strengthening our partnership towards this end going forward.

Sincerely,
Pete Caligiuri
Oregon Forest Program Lead
The Nature Conservancy

The Nature Conservancy

The Nature Conservancy in Oregon
821 SE 14th Avenue
Portland, OR 97214-2537

tel 503 802-8100
fax 503 802-8199
nature.org/oregon

July 2, 2021

Comments on ODF Draft Climate Change and Carbon Plan

Submitted by: Pete Caligiuri, Forest Program Director

To the Oregon Department of Forestry:

Thank you for the opportunity to provide comments on the 2021 draft Climate Change and Carbon Plan. We appreciate the efforts undertaken by the Board of Forestry, Department of Forestry leadership, and its staff to begin articulating a vision, goals, and associated actions to address the role of forestry and the forest sector in Oregon to meeting climate mitigation, adaptation, and resilience goals. We appreciate ODF's interest in soliciting public input and feedback on this critical work.

The Nature Conservancy in Oregon is a non-partisan, science-based organization with staff based in communities across the state. We work with ranchers, farmers, fishers, timber, and environmental interests on some of the most challenging conservation issues facing people and nature. We believe that Oregon has a responsibility to enact policies that address its contributions to climate change and enable the necessary responses. While climate change is a global challenge, we are already witnessing shifts in ecological processes and functions in Oregon's forests, with negative impacts on ecosystems and biodiversity. These shifts are also negatively impacting the health and well-being of Oregonians across our state, and it is the most vulnerable members of our society who will bear the greatest burdens of climate change.

We support ODF adopting a bold and ambitious plan to advance climate mitigation, adaptation, and resilience in Oregon's forests, using best-available science to develop definitive goals, actions, targets, and accountability measures to ensure that the outsize role forests can play in combating climate change is realized.

The draft Climate Change and Carbon Plan is an important first step in that effort, and once finalized, should serve as a clear roadmap for the Board, ODF, and staff to ensure that all actions are viewed through a climate lens. As such, it is imperative that the plan articulate the concrete steps ODF will take to meet EO 20-04 and we offer the following comments on the draft Plan to that end.

Climate Mitigation and Adaptation Efforts Must Extend Beyond State Forests and Voluntary Measures
The Plan acknowledges the need for bold steps to be taken across the forestry and forest products sectors to address climate change. We agree and urge adoption of the full suite of actions, including efforts on state forestlands, voluntary measures and incentives for private forestlands, and use of robust Forest Practices Act rules to achieve ambitious climate goals. Recent science, such as Graves et al. 2020, underscores the potential of deferred timber harvest and extended rotations as a powerful mitigation pathway, while also highlighting that achieving such an outcome will require widespread adoption by forestland owners across wet, productive forests. As such, ODF needs to develop more concrete strategies to drive a shift from away from business as usual.

Ecologically Based Climate-Smart Forestry Should be Tiered to Forest Type
Oregon is home to a diverse array of forest types, each experiencing or projected to experience different impacts resulting from a rapidly changing climate. Climate-smart forestry and climate-informed silviculture must take into account these differences and apply appropriate on-the-ground tools to address underlying drivers of change with the common goal of restoring the ecological process and function that support forest resilience and resistance, from which benefits to nature and people (aka ecosystem services) flow. For example, in wet, productive forests this may mean developing effective climate mitigation strategies to lengthen rotations, protect and conserve riparian forests and existing old and complex wet forests, and promote development of more old and complex wet forests to increase sequestration and storage. Whereas in dry, frequent fire forests actions should be tiered to ecological restoration treatments, such as ecological thinning, prescribed fire, and managed wildfire that will increase resilience and resistance of these systems as a primary climate adaptation strategy.

Reforestation and Afforestation Should be Guided by Best-Available Science
As the Plan highlights in several sections, post-fire reforestation and afforestation can provide an important pathway in climate mitigation efforts. This work should be guided by the best-available science, such as current and future work to analyze post-fire regeneration potential in the western U.S. to prioritize investments in places with the greatest potential to sustain forests in the face of a rapidly changing climate. Similarly with afforestation efforts, which also must be carefully evaluated to ensure this work doesn't displace, or come at the expense of restoring other native ecosystems, such as pine or oak woodlands, woodland savannah, or other native grasslands where conifer forest is not ecologically appropriate.

Setting Concrete Goals, Evaluating Progress, and Ensuring Accountability
The draft Plan provides general outlines of a vision, goals, and actions for ODF to address climate mitigation, adaptation, and resilience efforts, but it is lacking specific, measurable, actionable, and timebound targets and the steps to implement them. Furthermore, the plan lacks clear and concrete definitions of core concepts, such as climate-smart forestry, and hence lacks clarity on the associated actions that will be taken to achieve stated goals. Finally, performance metrics and monitoring are needed to define success, evaluate outcomes, drive adaptive management, and create accountability for the Board, ODF leadership, and staff.

Climate considerations and actions must remain a priority, embedded in the daily work of every state agency, if we are to mitigate the worst effects of our changing climate while simultaneously preparing for the resulting challenges. The science is clear that forests hold immense potential to support this work, if we commit to and invest in appropriate climate mitigation, adaptation, and resilience efforts at a scale commensurate with the challenge. In this work, ODF must be bold, creative, aspirational, and accountable, utilize the best available science, and collaborate with a wide variety of stakeholders. The Nature Conservancy looks forward to working alongside you to find pragmatic, durable solutions in this effort.

Thank you for your consideration.

Pete Caligiuri
Forest Program Director
The Nature Conservancy

Public Comment
ODF Draft Climate Change and Carbon Plan

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Sent: Thursday, July 01, 2021 8:52 AM
Subject:Comments for the draft Climate Change and Carbon Plan
Name Grace Brahler
Comment/question
Dear State Forester Hirsch and Staff of the Oregon Department of Forestry, Thank you for your extensive work developing this crucial Climate Change and Carbon Plan (CCCP) and offering opportunities to provide feedback. Please consider the following comments that discuss several ways in which the draft plan can be strengthened to support healthy communities and resilient forests as the climate continues to change. Urgency and the Need to Build Capacity While the draft plan does a good job of communicating the seriousness and diverse impacts of climate change, it could better emphasize the urgency and compounding nature of the crises we face. We are already seeing the impacts of climate change, severe drought, and biodiversity loss--all of which negatively affect frontline communities first and most significantly. To meet the goals set out in the Governor's EO 20-04 on Climate Action, the Department of Forestry (ODF) should adopt and implement practices that promote carbon sequestration and storage immediately and continue to utilize new technologies as they become available. Another related suggestion would be to include an estimate of staffing and resources ODF needs to be able to effectively develop and implement the vision in the CCCP. In order to have the capacity needed to actualize the progress imagined by the CCCP, ODF should use this as an opportunity to communicate related staffing and resource needs to the Governor's office and State Legislature to increase its chances of securing funding needed to complete this work. This will help decision-makers understand the associated needs as well as help allies better advocate for these needs. Equity, Climate Justice, and Traditional Land Management The following goal is outlined at the outset of the draft plan: "Black, Indigenous, and People of Color (BIPOC) communities have been and continue to be some of the most climate-impacted communities. Forest policies will be shaped through the lens of social justice and equity. Actions will prioritize benefits to historically and currently underserved communities as they adapt to a changing climate." These are important acknowledgments and intentions, yet the actions ODF will take to achieve this guiding principle are not clearly outlined in the current draft plan. How will ODF establish and maintain relationships with impacted communities? In what ways and how often will BIPOC communities be able to provide input? The plan should include more specific information regarding ODF's outreach to historically underserved and underrepresented communities, ways in which those communities will be included in decision-making processes, and how ODF intends to prioritize attention to and distribution of resources to communities most impacted by climate change and forest management practices. ODF should establish partnerships with Tribes, Indigenous communities, and tribal climate activists; incorporate tribal climate mitigation and adaptation practices that can support increased carbon storage and sequestration in Oregon's forests; and seek to build bridges and understanding between Western (conventional) and Indigenous practices, including through the ecologically-appropriate use of fire in Oregon's eastern and southern forests. Tribal and Indigenous communities have extensive knowledge about plant communities, native plants, and the benefits of protecting those resources (in regard to page 15 of the draft plan). A study in Wisconsin, for example, showed that tribal forests had older trees, greater plant diversity, and better tree regeneration, which support carbon storage and sequestration, than surrounding state or national forests. See the

Northwest Forest Plan Tribal Monitoring Report for a case study discussing how the Coquille Indian Tribe built trust and maintained relationships with federal land managers. Climate-Smart Forestry and Carbon Balance Research shows that our regional forests are the nation's biggest carbon sink. Research also shows that logging is likely Oregon's largest emitter of greenhouse gas emissions. Reforestation, afforestation, lengthened harvest cycles on private lands, and restricting harvest on public lands in Oregon are projected to increase net ecosystem carbon balance 56% by 2100, with the latter two actions contributing the most. The CCCP should incorporate or expand on the following to leverage our region's carbon sequestration capabilities and reduce emissions. Lengthen Logging Rotations According to Diaz et al., "[e]xpanded riparian protections, increased green tree retention, and the extension of rotation ages can translate into substantially higher carbon storage than contemporary common practice for Douglas-fir management in the Pacific Northwest." By allowing trees to grow for longer time periods, ODF can improve carbon stocks while also increasing timber yield and timber quality. Studies suggest that 80-year rotations of Coastal Douglas fir may provide optimal carbon storage benefits depending on assumptions about product longevity and substitution of alternative materials. Establish Carbon Reserves State forests that exhibit old forest characteristics should be prioritized by the Department for their carbon and biodiversity value. ODF should work to identify mature, old growth, and any additional areas with high carbon storage potential on public lands and protect them as part of a carbon reserve. These stands also provide high-quality habitat for salmon and other at-risk wildlife, helping managers achieve two objectives at once. Healthy salmon help create healthy forests. Prioritize Habitat Diversity The plan could do more to highlight the need for diverse forests. For example, when replanting forests post-harvest or post-fire, ODF should increase species diversity and select species that will be more resilient to climate change and associated disturbances. Forests replanted with a dense monoculture of Douglas-fir, for example, can provide more fuel for wildfires exacerbated by hotter and windier conditions brought on by climate change. Further, monoculture forests are less resilient to pests and disease, which may lead to tree losses and future applications of chemical inputs that harm drinking water sources and fish and wildlife habitat. Consider All Emissions Emissions from the forest sector, which exceed those from wildfires in western states, are excluded from state-level reporting of greenhouse gas emissions. Harvest-related emissions should be quantified, including fuel use in logging operations, emissions from road construction, soil and native vegetation disturbance during harvest operations, emissions from slash burning and transport of slash offsite, emissions from trucking in and spraying pesticides, and the estimated loss of carbon storage when a tree is harvested, transported, and processed into wood products, chips and pellets. If the agency, legislators, and the public do not have an accurate sense of emissions, we will be unable to make the changes needed to meet the climate mitigation goals set out in the Governor's Executive Order 20-04. Additionally, while the draft plan stresses the ability of wood products to store carbon (draft CCCP page 8), studies suggest this is often overestimated. And although harvested wood products can displace more carbon-intensive steel and concrete, replacement is not a substitute for keeping that carbon on the landscape. In Oregon, 65 percent of wood carbon harvested since 1900 has returned to the atmosphere, and only 19 percent remains in long-term products. Finally, biomass projects and their impacts on vulnerable populations are not discussed in the draft plan. Before it is considered a viable option of reducing/mitigating GHG emissions, there should be a full analysis of its negative impacts. Biomass is not a carbon neutral solution and its use has serious environmental justice concerns. Watershed Health and Restoration Millions of Oregonians get their drinking water from forested watersheds, which face compounding threats from climate change, severe drought, and land management practices that introduce physical

and chemical pollutants. Watershed health must be a top priority for the agency--especially in the context of climate planning. Clearcuts and post-fire logging operations increase the risk of mudslides and sediment runoff, negatively impacting Oregon's rivers and streams, while pesticide application can pose a risk to local community drinking water sources. Water infrastructure for water service providers is outdated and treatment needs are costly. Further, drinking water violations disproportionately occur in communities of color, especially in rural and tribal areas. As the impacts of climate change worsen (i.e. drought, heat waves, reduced snowpack, higher summer flows, extreme precipitation events), Oregon's forests must be managed for clean water quality, water quantity, and flood prevention as an adaptation tool. While the plan discusses forest restoration, those efforts refer to forest ecosystems generally and are not specifically targeted at watersheds. Discussions of restoration should be expanded to include topics such as restoration of watersheds, critical habitat, and increasing the forests' resilience and adaptive capacity. Watersheds often require different kinds of restoration efforts than forests, such as increasing woody debris in streams, planting trees near streams, leaving forest buffers around streams, and preserving old growth forests around watersheds. Additional Considerations The draft plan (p. 20) states: "To achieve adaptive management and the goals in this plan, agency staff will periodically bring progress assessments to the Board." How often will ODF assess its progress in reducing GHG emissions and mitigating/adapting to climate change impacts? The draft plan (p. 22) states: "The Department will institute an annual recognition mechanism that highlights landowners, organizations, or managers that are innovative and working towards stewardship and/or addressing the impacts of climate change." Is recognition enough to influence voluntary actions of private landowners? Incentive-based models that support climate-smart forest management will be the most impactful way to ensure meaningful change. ODF should work with the Legislature to establish a climate fund to support the climate-smart forestry efforts on private lands and develop accountability standards to ensure incentives are awarded to landowners, organizations, or managers who are practicing verifiable climate-smart forestry or will adopt verifiable, high standards of climate-smart forestry. Finally, the draft plan briefly mentions the need for educational opportunities surrounding climate-smart forestry. This is key and could be expanded upon in the draft plan. The changes needed to adapt to and mitigate the impacts of climate change must and will be a significant departure from historical and current practices. ODF should work to ensure that current and future generations of Oregonians who live, work, and recreate in or near state forests are equipped with climate-specific knowledge. ODF can do so by providing or connecting private landowners and community members with technical assistance and training, working to ensure climate-smart forestry is incorporated into university and community college programs, eliminating the spread of misinformation. Thank you again for the opportunity to provide input on the draft Climate Change and Carbon Plan. This is a tremendous effort and we are anxious to continue supporting ODF throughout this process. Sincerely, Grace Brahler, Oregon Climate Action Plan and Policy Manager, [Submitted via email to Danny Norlander, ODF Forest Carbon and Forest Health Policy Analyst, Danny.NORLANDER@oregon.gov] Sources: 1) See, e.g., Shannon Gormley, "Oregon's Indigenous Communities Know How to Stop Megafires. Will the State Let Them?" October 7, 2020. https://www.wweek.com/news/2020/10/07/oregons-indigenous-communities-know-how-to-stop-megafires-will-the-state-let-them/ (discussing the benefits of controlled burns conducted by Oregon's tribal communities and bureaucratic barriers to conducting them). 2) Danielle Kaeding, "Tribal Forests More Diverse, Sustainable Than Surrounding Forests," April 20, 2018. https://www.wpr.org/tribal-forests-more-diverse-sustainable-surrounding-forests. 3) The Resource Innovation Group and the Institute for a Sustainable Environment, University of Oregon. Northwest

Forest Plan—the First 15 Years (1994–2008): Effectiveness of the Federal-Tribal Relationship (Oregon/Washington Report) at 32. https://www.fs.fed.us/r6/reo/monitoring/downloads/tribal/Nwfp15yrMonitoringReportTribal.pdf. 4) Mildrexler, D.J., Berner, L.T., Law, B.E., Birdsey, R.A., and W.R. Moomaw. Large Trees Dominate Carbon Storage in Forests East of the Cascade Crest in the United States Pacific Northwest. 2020. Front. For. Glob. Change 3:594274. doi: 10.3389/ffgc.2020.594274. https://www.frontiersin.org/articles/10.3389/ffgc.2020.594274/full. 5) Law, B.E., Hudiburg, T.W., Berner, L.T., Kent, J.J., Buotte, P.C., Harmon, M.E. 2018. Land use strategies to mitigate climate change in carbon dense temperate forests. Proceedings of the National Academy of Sciences. https://www.pnas.org/content/115/14/3663. 6) Law et al. 2018. Land use strategies to mitigate climate change in carbon dense temperate forests. Proceedings of the National Academy of Sciences. https://www.pnas.org/content/115/14/3663. 7) David D. Diaz, Sara Loreno, Gregory J. Ettl and Brent Davies 2018 Tradeoffs in Timber, Carbon, and Cash Flow under Alternative Management Systems for Douglas-Fir in the Pacific Northwest. Forests 9 (8) 447 https://www.mdpi.com/1999-4907/9/8/447. 8) See, e.g. Stephen J. Fain, Brian Kittler, Amira Chowyuk, 2018. Managing Moist Forests of the Pacific Northwest United States for Climate Positive Outcomes. Multidisciplinary Digital Publishing Institute. doi: 10.3390/f9100618 https://www.researchgate.net/publication/328229114_Managing_Moist_Forests_of_the_Pacific_Northwest_United_States_for_Climate_Positive_Outcomes. 9) Law et al. 2018. Land use strategies to mitigate climate change in carbon dense temperate forests. Proceedings of the National Academy of Sciences. https://www.pnas.org/content/115/14/3663; Hudiburg, T.W., Law, B.E., Moomaw, W.R., Harmon, M.E. and Stenzel, J.E. 2019. Meeting GHG reduction targets requires accounting for all forest sector emissions. Environ. Res. Lett. 14 095005. https://iopscience.iop.org/article/10.1088/1748-9326/ab28bb. Another study showed that harvest caused more tree mortality (49%) in the western US than bark beetles (33%) or fires (18%) during the 2000s, when hot and dry conditions contributed to increases in beetle and fire activity. Tree mortality was quantified as the amount of aboveground carbon stored in tree biomass killed by disturbance. Berner et al. 2017. Tree mortality from fires, bark beetles, and timber harvest during a hot and dry decade in the western United States (2003–2012). Environ. Res. Lett. 12 065005. https://iopscience.iop.org/article/10.1088/1748-9326/aa6f94/meta (2019 correction available at https://iopscience.iop.org/article/10.1088/1748-9326/ab1690). 10) Hudiburg et al. 2019. Meeting GHG reduction targets requires accounting for all forest sector emissions. Environ. Res. Lett. 14 095005. https://iopscience.iop.org/article/10.1088/1748-9326/ab28bb. 11) See, e.g., McKechnie J., Colombo S., Chen J., Mabee W. and MacLean H.L. 2011. Forest bioenergy or forest carbon? Assessing trade-offs in greenhouse gas mitigation with wood-based fuels. Environ. Sci. Technol. 45 789–95 https://pubs.acs.org/doi/abs/10.1021/es1024004. 12) Monica Samayoa, “Study: Safe Drinking Water Violations Are Higher For Communities Of Color,” September 25, 2019. https://www.opb.org/news/article/safe-drinking-water-act-violations-communities-color-study/. See also, Reyes-Santos, Case-Scott, and Singh, “Addressing Issues of Water Justice,” June 1, 2021. https://www.registerguard.com/story/opinion/columns/2021/06/01/guest-view-addressing-issues-water-justice-oregon-water-futures/5250163001/. 13) Consider the following: Forest restoration has been shown to benefit watershed services but must be prioritized and funded to have a large effect (Mueller et al. 2013, https://agupubs.onlinelibrary.wiley.com/doi/full/10.1002/wrcr.20163). Turbidity was found to be significantly higher in Northern California watersheds in areas that had timber harvested or wildfires (Lewis et al. 2019, https://link.springer.com/article/10.1007/s00267-018-1036-3).

Thinning and logging can lead to less woody debris in streams which harms watershed ecosystems that rely on the nutrients from decaying wood and pools made by woody debris (Carah et al. 2014, https://www.tandfonline.com/doi/full/10.1080/02755947.2014.943861).

To: State Forester Hirsch and Staff of the Oregon Department of Forestry
From: Grace Brahler, Beyond Toxics
Date: June 30, 2021
Re: Feedback on Climate Change and Carbon Plan (June 2021 Draft)

Dear State Forester Hirsch and Staff of the Oregon Department of Forestry,

Thank you for your extensive work developing this crucial Climate Change and Carbon Plan (CCCP) and offering opportunities to provide feedback. Please consider the following comments that discuss several ways in which the draft plan can be strengthened to support healthy communities and resilient forests as the climate continues to change.

Urgency and the Need to Build Capacity

While the draft plan does a good job of communicating the seriousness and diverse impacts of climate change, it could better emphasize the urgency and compounding nature of the crises we face. We are already seeing the impacts of climate change, severe drought, and biodiversity loss--all of which negatively affect frontline communities first and most significantly. To meet the goals set out in the Governor's EO 20-04 on Climate Action, the Department of Forestry (ODF) should adopt and implement practices that promote carbon sequestration and storage immediately and continue to utilize new technologies as they become available.

Another related suggestion would be to include an estimate of staffing and resources ODF needs to be able to effectively develop and implement the vision in the CCCP. In order to have the capacity needed to actualize the progress imagined by the CCCP, ODF should use this as an opportunity to communicate related staffing and resource needs to the Governor's office and State Legislature to increase its chances of securing funding needed to complete this work. This will help decision-makers understand the associated needs as well as help allies better advocate for these needs.

Equity, Climate Justice, and Traditional Land Management

The following goal is outlined at the outset of the draft plan: *"Black, Indigenous, and People of Color (BIPOC) communities have been and continue to be some of the most climate-impacted communities. Forest policies will be shaped through the lens of social justice and equity. Actions will prioritize benefits to historically and currently underserved communities as they adapt to a changing climate."* These are important acknowledgments and intentions, yet the actions ODF will take to achieve this guiding principle are not clearly outlined in the current draft plan. How will ODF establish and maintain relationships with impacted communities? In what ways and how often will BIPOC communities be able to provide input? The plan should include more specific information regarding ODF's outreach to historically underserved and underrepresented communities, ways in which those communities will be included in decision-making processes, and how ODF intends to prioritize attention to and distribution of resources to communities most impacted by climate change and forest management practices.

ODF should establish partnerships with Tribes, Indigenous communities, and tribal climate activists; incorporate tribal climate mitigation and adaptation practices that can support increased carbon storage

and sequestration in Oregon's forests; and seek to build bridges and understanding between Western (conventional) and Indigenous practices, including through the ecologically-appropriate use of fire in Oregon's eastern and southern forests.[1] Tribal and Indigenous communities have extensive knowledge about plant communities, native plants, and the benefits of protecting those resources (in regard to page 15 of the draft plan). A study in Wisconsin, for example, showed that tribal forests had older trees, greater plant diversity, and better tree regeneration, which support carbon storage and sequestration, than surrounding state or national forests.[2] See the Northwest Forest Plan Tribal Monitoring Report for a case study discussing how the Coquille Indian Tribe built trust and maintained relationships with federal land managers.[3]

Climate-Smart Forestry and Carbon Balance

Research shows that our regional forests are the nation's biggest carbon sink.[4] Research also shows that logging is likely Oregon's largest emitter of greenhouse gas emissions.[5] Reforestation, afforestation, lengthened harvest cycles on private lands, and restricting harvest on public lands in Oregon are projected to increase net ecosystem carbon balance 56% by 2100, with the latter two actions contributing the most.[6] The CCCP should incorporate or expand on the following to leverage our region's carbon sequestration capabilities and reduce emissions.

1. Lengthen Logging Rotations

According to Diaz et al., "[e]xpanded riparian protections, increased green tree retention, and the extension of rotation ages can translate into substantially higher carbon storage than contemporary common practice for Douglas-fir management in the Pacific Northwest."[7] By allowing trees to grow for longer time periods, ODF can improve carbon stocks while also increasing timber yield and timber quality. Studies suggest that 80-year rotations of Coastal Douglas fir may provide optimal carbon storage benefits depending on assumptions about product longevity and substitution of alternative materials.[8]

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[1] See, e.g., Shannon Gormley, "Oregon's Indigenous Communities Know How to Stop Megafires. Will the State Let Them?" October 7, 2020. https://www.wweek.com/news/2020/10/07/oregons-indigenous-communities-know-how-to-stop-megafires-will-the-state-let-them/ (discussing the benefits of controlled burns conducted by Oregon's tribal communities and bureaucratic barriers to conducting them).

[2] Danielle Kaeding, "Tribal Forests More Diverse, Sustainable Than Surrounding Forests," April 20, 2018. https://www.wpr.org/tribal-forests-more-diverse-sustainable-surrounding-forests.

[3] The Resource Innovation Group and the Institute for a Sustainable Environment, University of Oregon. Northwest Forest Plan—the First 15 Years (1994–2008): Effectiveness of the Federal-Tribal Relationship (Oregon/Washington Report) at 32. https://www.fs.fed.us/r6/reo/monitoring/downloads/tribal/Nwfp15yrMonitoringReportTribal.pdf.

[4] Mildrexler, D.J., Berner, L.T., Law, B.E., Birdsey, R.A., and W.R. Moomaw. Large Trees Dominate Carbon Storage in Forests East of the Cascade Crest in the United States Pacific Northwest. 2020. Front. For. Glob. Change 3:594274. doi: 10.3389/ffgc.2020.594274. https://www.frontiersin.org/articles/10.3389/ffgc.2020.594274/full.

[5] Law, B.E., Hudiburg, T.W., Berner, L.T., Kent, J.J., Buotte, P.C., Harmon, M.E. 2018. Land use strategies to mitigate climate change in carbon dense temperate forests. Proceedings of the National Academy of Sciences. https://www.pnas.org/content/115/14/3663.

[6] Law et al. 2018. Land use strategies to mitigate climate change in carbon dense temperate forests. Proceedings of the National Academy of Sciences. https://www.pnas.org/content/115/14/3663.

[7] David D. Diaz, Sara Loreno, Gregory J. Ettl and Brent Davies 2018 Tradeoffs in Timber, Carbon, and Cash Flow under Alternative Management Systems for Douglas-Fir in the Pacific Northwest. Forests 9 (8) 447 https://www.mdpi.com/1999-4907/9/8/447.

[8] See, e.g. Stephen J. Fain, Brian Kittler, Amira Chowyuk, 2018. Managing Moist Forests of the Pacific Northwest United States for Climate Positive Outcomes. Multidisciplinary Digital Publishing Institute. doi: 10.3390/f9100618

2. Establish Carbon Reserves

State forests that exhibit old forest characteristics should be prioritized by the Department for their carbon and biodiversity value. ODF should work to identify mature, old growth, and any additional areas with high carbon storage potential on public lands and protect them as part of a carbon reserve. These stands also provide high-quality habitat for salmon and other at-risk wildlife, helping managers achieve two objectives at once. Healthy salmon help create healthy forests.

3. Prioritize Habitat Diversity

The plan could do more to highlight the need for diverse forests. For example, when replanting forests post-harvest or post-fire, ODF should increase species diversity and select species that will be more resilient to climate change and associated disturbances. Forests replanted with a dense monoculture of Douglas-fir, for example, can provide more fuel for wildfires exacerbated by hotter and windier conditions brought on by climate change. Further, monoculture forests are less resilient to pests and disease, which may lead to tree losses and future applications of chemical inputs that harm drinking water sources and fish and wildlife habitat.

4. Consider All Emissions

Emissions from the forest sector, which exceed those from wildfires in western states, are excluded from state-level reporting of greenhouse gas emissions.[9] Harvest-related emissions should be quantified, including fuel use in logging operations, emissions from road construction, soil and native vegetation disturbance during harvest operations, emissions from slash burning and transport of slash offsite, emissions from trucking in and spraying pesticides, and the estimated loss of carbon storage when a tree is harvested, transported, and processed into wood products, chips and pellets. If the agency, legislators, and the public do not have an accurate sense of emissions, we will be unable to make the changes needed to meet the climate mitigation goals set out in the Governor's Executive Order 20-04.

Additionally, while the draft plan stresses the ability of wood products to store carbon (draft CCCP page 8), studies suggest this is often overestimated. And although harvested wood products can displace more carbon-intensive steel and concrete, replacement is not a substitute for keeping that carbon on the landscape. In Oregon, 65 percent of wood carbon harvested since 1900 has returned to the atmosphere, and only 19 percent remains in long-term products.[10] Finally, biomass projects and their impacts on vulnerable populations are not discussed in the draft plan. Before it is considered a viable option of

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https://www.researchgate.net/publication/328229114_Managing_Moist_Forests_of_the_Pacific_Northwest_United_States_for_Climate_Positive_Outcomes.

[9] Law et al. 2018. Land use strategies to mitigate climate change in carbon dense temperate forests. Proceedings of the National Academy of Sciences. https://www.pnas.org/content/115/14/3663; Hudiburg, T.W., Law, B.E., Moomaw, W.R., Harmon, M.E. and Stenzel, J.E. 2019. Meeting GHG reduction targets requires accounting for all forest sector emissions. Environ. Res. Lett. 14 095005. https://iopscience.iop.org/article/10.1088/1748-9326/ab28bb. Another study showed that harvest caused more tree mortality (49%) in the western US than bark beetles (33%) or fires (18%) during the 2000s, when hot and dry conditions contributed to increases in beetle and fire activity. Tree mortality was quantified as the amount of aboveground carbon stored in tree biomass killed by disturbance. Berner et al. 2017. Tree mortality from fires, bark beetles, and timber harvest during a hot and dry decade in the western United States (2003–2012). Environ. Res. Lett. 12 065005. https://iopscience.iop.org/article/10.1088/1748-9326/aa6f94/meta (2019 correction available at https://iopscience.iop.org/article/10.1088/1748-9326/ab1690).

[10] Hudiburg et al. 2019. Meeting GHG reduction targets requires accounting for all forest sector emissions. Environ. Res. Lett. 14 095005. https://iopscience.iop.org/article/10.1088/1748-9326/ab28bb.

reducing/mitigating GHG emissions, there should be a full analysis of its negative impacts. Biomass is not a carbon neutral solution and its use has serious environmental justice concerns.[11]

Watershed Health and Restoration

Millions of Oregonians get their drinking water from forested watersheds, which face compounding threats from climate change, severe drought, and land management practices that introduce physical and chemical pollutants. Watershed health must be a top priority for the agency--especially in the context of climate planning. Clearcuts and post-fire logging operations increase the risk of mudslides and sediment runoff, negatively impacting Oregon's rivers and streams, while pesticide application can pose a risk to local community drinking water sources. Water infrastructure for water service providers is outdated and treatment needs are costly. Further, drinking water violations disproportionately occur in communities of color, especially in rural and tribal areas.[12] As the impacts of climate change worsen (i.e. drought, heat waves, reduced snowpack, higher summer flows, extreme precipitation events), Oregon's forests must be managed for clean water quality, water quantity, and flood prevention as an adaptation tool.

While the plan discusses forest restoration, those efforts refer to forest ecosystems generally and are not specifically targeted at watersheds. Discussions of restoration should be expanded to include topics such as restoration of watersheds, critical habitat, and increasing the forests' resilience and adaptive capacity. Watersheds often require different kinds of restoration efforts than forests, such as increasing woody debris in streams, planting trees near streams, leaving forest buffers around streams, and preserving old growth forests around watersheds.[13]

Additional Considerations

The draft plan (p. 20) states: *"To achieve adaptive management and the goals in this plan, agency staff will periodically bring progress assessments to the Board."* How often will ODF assess its progress in reducing GHG emissions and mitigating/adapting to climate change impacts?

The draft plan (p. 22) states: *"The Department will institute an annual recognition mechanism that highlights landowners, organizations, or managers that are innovative and working towards stewardship and/or addressing the impacts of climate change."* Is recognition enough to influence voluntary actions of private landowners? Incentive-based models that support climate-smart forest management will be the most impactful way to ensure meaningful change. ODF should work with the Legislature to establish a climate fund to support the climate-smart forestry efforts on private lands and develop accountability standards to ensure incentives are awarded to landowners, organizations, or managers who are practicing verifiable climate-smart forestry or will adopt verifiable, high standards of climate-smart forestry.

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[11] See, e.g., McKechnie J., Colombo S., Chen J., Mabee W. and MacLean H.L. 2011. Forest bioenergy or forest carbon? Assessing trade-offs in greenhouse gas mitigation with wood-based fuels. Environ. Sci. Technol. 45 789–95 https://pubs.acs.org/doi/abs/10.1021/es1024004.

[12] Monica Samayoa, "Study: Safe Drinking Water Violations Are Higher For Communities Of Color," September 25, 2019. https://www.opb.org/news/article/safe-drinking-water-act-violations-communities-color-study/. See also, Reyes-Santos, Case-Scott, and Singh, "Addressing Issues of Water Justice," June 1, 2021. https://www.registerguard.com/story/opinion/columns/2021/06/01/guest-view-addressing-issues-water-justice-oregon-water-futures/5250163001/.

[13] Consider the following: Forest restoration has been shown to benefit watershed services but must be prioritized and funded to have a large effect (Mueller et al. 2013, https://agupubs.onlinelibrary.wiley.com/doi/full/10.1002/wrcr.20163). Turbidity was found to be significantly higher in Northern California watersheds in areas that had timber harvested or wildfires (Lewis et al. 2019, https://link.springer.com/article/10.1007/s00267-018-1036-3). Thinning and logging can lead to less woody debris in streams which harms watershed ecosystems that rely on the nutrients from decaying wood and pools made by woody debris (Carah et al. 2014, https://www.tandfonline.com/doi/full/10.1080/02755947.2014.943861).

Finally, the draft plan briefly mentions the need for educational opportunities surrounding climate-smart forestry. This is key and could be expanded upon in the draft plan. The changes needed to adapt to and mitigate the impacts of climate change must and will be a significant departure from historical and current practices. ODF should work to ensure that current and future generations of Oregonians who live, work, and recreate in or near state forests are equipped with climate-specific knowledge. ODF can do so by providing or connecting private landowners and community members with technical assistance and training, working to ensure climate-smart forestry is incorporated into university and community college programs, eliminating the spread of misinformation.

Thank you again for the opportunity to provide input on the draft Climate Change and Carbon Plan. This is a tremendous effort and we are anxious to continue supporting ODF throughout this process.

Sincerely,

Grace Brahler, Oregon Climate Action Plan and Policy Manager

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

[Submitted via email to Danny Norlander, ODF Forest Carbon and Forest Health Policy Analyst, Danny.NORLANDER@oregon.gov]

Public Comment
ODF Draft Climate Change and Carbon Plan

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Sent: Thursday, July 01, 2021 7:27 AM
Subject:Comments for the draft Climate Change and Carbon Plan
Name Nancy Mauter
Comment/question
I am very supportive of the proposed updating and revisions of the Oregon's forestry plan. I have read the plan document and listened to the video. I am not asking for a halt to all timber harvesting in state forests, but if you are serious about updating the forestry plan to include carbon sequestration and follow the definition of Climate-Smart Forestry than you need to move our Oregon forests from a leading source of emissions to a carbon asset. The statement has been made that wood products provide long term storage of carbon, but research has proven that only 15% to 19% of the total carbon from trees is captured in the final wood product. Plus, all logging practices themselves have contributed 35% (between 2011 and 2015) of Oregon's total carbon emissions, according to Oregon State University. The real champion of carbon storage is actually above-ground trees and shrubs, and soils of an intact forest ecosystem. The Oregon Department of Forestry needs to be serious about the Climate-Smart Forestry concepts and look at the deeply ingrained policies that the timber industry has benefited from for decades. The viability of the industrial forest industry cannot be a main goal if the Oregon Department of Forestry is serious about Climate change mitigation. Please consider these two principles: *Mature and old growth forests store and sequester immense amounts of carbon. Wherever stands of large trees exist on public lands, they should be protected as climate reserves. Incentivize conservation of mature and old growth forests on private lands and preserve these stands on public lands. *Current standard logging rotations undermine the ability of forests to optimize carbon storage and resist fire damage. By allowing trees to grow for longer time periods, managers can grow our carbon stocks and develop healthy forest landscapes that can resist fire spread. It is vital to take action to utilize our forest's as a carbon sink. In concert with other policies and technology we may curb the worst scenarios that climate change has to offer.

Public Comment
ODF Draft Climate Change and Carbon Plan

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Sent: Wednesday, June 30, 2021 11:09 PM
Subject:Comments for the draft Climate Change and Carbon Plan
Name Erich Reeder
Comment/question
An enormous body of scientific research over many decades clearly shows that our forests here in the Pacific Northwest recycle water and nutrients and thus themselves through a diverse array of species, including symbiotic fungi, soil arthropods, small mammals, various fish and bird species, etc. that keep them healthy for centuries, pull massive amounts of carbon out of the atmosphere and store it in their structure and in the ground, as well as keeping our watersheds charged and functioning (check out all the papers available through the HJ Andrews research website). This ecological complexity which is responsible for the ecological health and services of our forests needs to be at the foundation of any discussion and policy regarding climate change and carbon storage on our forested lands in Oregon. Regrettably, the industrial tree farming model currently used across privately-held lands in Oregon ignores all of this. As an acquaintance of mine who is the lead forester for one of the big private landowning timber companies in Douglas County recently told me, "we don't do ecology." That needs to change. I hope ODF is serious about this and some good, thoughtful, ecologically sound, and productive conversations and policies become realized. Thanks for listening & let me know if I can help, Sincerely, Erich

Public Comment
ODF Draft Climate Change and Carbon Plan

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Sent: Wednesday, June 30, 2021 7:39 PM
Subject:Comments for the draft Climate Change and Carbon Plan
Name Kathleen Miller
Comment/question
Thank you for intending to switch Oregon forests from one of our biggest sources of carbon emissions ("Studies estimate that annual logging-related emissions average 33 million metric tons of carbon dioxide equivalent per year since 2000. ") to our best way to sequester carbon from the atmosphere. Mature, old growth forests sequester more carbon than younger forests and I hope you put a moratorium on logging big trees. Native stands of big trees should be protected as climate reserves. Old growth forests have survived many fires and trees that have survived fires do not need to be cut. Incentivizing conservation of healthy forests on private land and heavily taxing those who cut healthy forests could help protect the climate we all share. Lengthening logging rotations would help sequester more carbon as older trees hold more carbon than younger trees. The buffer around streams, creeks, rivers, lakes needs to be increased to keep our waterways cooler for fish and people. When Corvallis was 112F on June 27, 2021 the river was a major refuge for all those without air conditioning. Promote diverse forests rather than monocultures. Make bold efforts to collaborate with other agencies and stakeholders in Oregon and beyond working to mitigate and adapt to climate change. Our soils also sequester carbon and should not be left bare. I am saddened to see the hundreds of thousands of acres of filbert/ hazelnut orchards in the Willamette valley with bare ground (herbicides?) between all the rows. Biomass burning is a huge source of carbon emissions, healthy trees should not be cut to burn. The large mass of wood that fell as a result of the ice storm in Feb "21 would best be sequestered into Biochar or used for paper products rather than to cut healthy trees. Trees are a source of spiritual strength, upliftment, shelter from heat and other weather, and need more respect and protections. Logging is extremely wasteful of most all of the trees branches, carbon sequestering and water and air filtering qualities. The climate crisis is our biggest threat to our survival and quality or life, every effort needs to be engaged to educate all on ways to sequester carbon (CPR -Conservation, Preservation, Restoration) of forests and wild lands; and sources of emitting carbon (burning, cutting, plowing, wasting, driving, industrial agriculture etc) . Our future and most vulnerable are depending on healthy forests for their survival.

Public Comment
ODF Draft Climate Change and Carbon Plan

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From: Grace Brahler
Sent: Wednesday, June 30, 2021 7:09 PM
Subject:Comments on Draft Climate Change and Carbon Plan
Attachments: BT Comments to ODF_Draft CCCP_6.30.21.pdf

Hi Danny,
I've attached comments on the current draft of the Climate Change and Carbon Plan as a pdf here. Please let me know if you have any questions or I can provide any additional information.
Thank you very much for all the work being done to develop this important plan and incorporate feedback.
Best,
Grace Brahler
Oregon Climate Action Plan & Policy Manager

Public Comment
ODF Draft Climate Change and Carbon Plan

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Sent: Wednesday, June 30, 2021 7:02 PM
Subject:Comments for the draft Climate Change and Carbon Plan
Name Irene weiss
Comment/question
Safe the oldest and mature forests from all forms of logging. These trees sequester the most carbon. Keep the borders of all waterways free of logging. This area has the highest biodiversity compared to all other land. This area is the richest in biodiversity and extremely important for healthy ecosystem. Healthy forest ecosystems in the Pacific Northwest sequester higher amounts of carbon the their logged counterparts. Count the energy and emissions used in logging Operations to as an increase in carbon emissions. A reduction in logging in all types will keep more carbon sequestered. This is true and more important in old and mature forest. Please keep the old and mature forest alive and respire get for the maximum benefit for us all. Thank you, Irene Weiss

Public Comment
ODF Draft Climate Change and Carbon Plan

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From: Amanda Astor
Sent: Wednesday, June 30, 2021 5:08 PM
Subject:AOL's Comments for the DRAFT CCCP
Attachments: AOL_CCCP_Comments_6.30.21.pdf
Hey Danny,
Here are AOL's comments related to the DRAFT CCCP. Thanks for all your hard work and I look forward to our continued collaboration.
Sincerely,
Amanda Astor, CCF (she/her/hers)
Forest Policy Manager
Associated Oregon Loggers

Associated Oregon Loggers, Inc.

PO Box 12339 • Salem, Oregon 97309-0339 • (503) 364-1330 • Fax (503) 364-0836

Date: June 30, 2021
To: Danny Norlander, Forest Carbon and Forest Health Policy Analyst
Oregon Department of Forestry
From: Amanda Astor, Forest Policy Manager
Associated Oregon Loggers

Subject: DRAFT Climate Change and Carbon Plan

Introduction

Associated Oregon Loggers (AOL) is a local trade association which represents nearly 1,000, family-owned forest contracting businesses. Our member companies have been involved in the management of the Oregon's forests for decades. These nearly 23,000 owners, operators and employees are essential to conduct most, if not all, activities in the woods, be that road work for access, timber falling for management and restoration, reforestation for sustainability, trucking for product transportation, and many other services. AOL's member companies provide a diverse array of services that are necessary for Oregon Department of Forestry (ODF or the Department) to conduct all of their forest management activities in order to achieve the goals and objectives of their Forest Management Plan (FMP). As ODF works towards a new FMP, the Climate Change and Carbon Plan (CCCP) will inform the allowable actions under the new Plan as well as any other actions ODF takes. The CCCP will also inform new regulations, programs and visions for the Department over the long term across all ownerships. It is vital to the success and long-term stability of AOL members to ensure their collective voice is heard during this Plan development. AOL believes the best way to ensure economic viability and operational feasibility of the CCCP is to work with the forest contracting sector and other timber stakeholders.

Forests not only provide oxygen and remove carbon dioxide; our forests provide renewable wood products and family wage jobs. Working in the woods is not easy, often requiring back breaking work and long hours when no one else is awake. So, why do we do it? It's because we love our forests, we love our industry and we are proud of it. Our heart and souls are put into what we do every day! It is our identity! Many of the companies working in the forest sector are small family-owned businesses with razor thin margins. As ODF considers policies that affect these small businesses' ability to thrive, remember that Oregon's forest sector is made up of thousands of working people, with real families, who are the fabric of rural Oregon communities.

Background

AOL wants to thank ODF for considering the feedback from those whom are directly impacted by the CCCP and work in partnership with the Department to achieve its goals. Without the forest contractors in the state, ODF would lose their eyes and ears in the woods during fire season for early fire detection, lumber prices would increase as supply decreases, affordable housing would become harder to develop, green building materials would be replaced by more carbon intensive

products, and those who already contribute heavily to the natural climate solutions that forests have to offer would be replaced by overgrown, fire prone and carbon emitting dying forests.

The forest products sector is a Circular Economy. According to a December 2018 NCASI Fact Sheet[1], *"The Circular Economy is "a regenerative system in which resource input and waste, emission, and energy leakage are minimised by slowing, closing, and narrowing material and energy loops" (Ellen MacArthur Foundation 2015). The principles of the Circular Economy are intrinsic to the forest products industry: all parts of the tree, a renewable resource, can be used efficiently to manufacture products of high quality; products are recyclable; and residuals can be used for energy production or other purposes. In this fact sheet, we explore this circularity of the forest products sector and discuss some opportunities for improvement and associated challenges."*

AOL supports a well-reasoned approach to climate change and believes increased forest management is necessary.

Climate Smart Forestry

Forests provide many different benefits including clean air[2], filtered water[3], wood products and habitat for animals[4]. Foresters work hard to understand the complex systems in nature while providing renewable resources to the world[5] and try to find a balance between these resources, help enhance the forest, and be a steward of the land through sustainable practices[6].

Oregon is a well-established leader in modern forestry, and that's something all Oregonians should be proud of. Managed forests scrub our air of pollution and purify our drinking water. One recent study[7] found that actively-managed forests store more carbon than unmanaged forests, in trees and soil, even when those forests have been harvested multiple times.

Global experts agree that responsible forest management is among the most effective strategies to respond to climate change[8]. AOL supports science-based policy and management; actively managing forests also has climate benefits. According to Bruce Lippke of the University of Washington, *"The carbon in sustainably managed PNW forest stands is restored […] at time of harvest. The […] forest remains carbon neutral because […], removals are set to be not larger than net growth." Lastly, a Dovetail Partners Incorporated report suggests "forests do not accumulate carbon indefinitely. […] Older forests tend to have higher carbon densities than young forests, but low or near-zero rates of additional carbon sequestration as they reach maturity. […] In old forests where catastrophic losses are likely […] active management can provide carbon benefits. […] a no harvest strategy can mean missed opportunities for greater carbon mitigation over the long-term, and also increase the risk of loss."*

ODF can prevent this loss by supporting those of us who work in the forests, ensure our forests continue to sequester maximum amounts of carbon, and help keep forests healthy for our children and future generations.

This means simply increasing rotation ages in our forests is NOT climate smart forestry. This locks up more carbon in the forested environment. A study published in *Science* titled Climate-driven risks to the climate mitigation potential of forests[9] 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."*

In this day and age, the value of maximizing carbon benefits should be prioritized through active management, rather than antiquated reserve systems that seek to discount the important role of forests by relegating forests as mere carbon storage waste bins.

In 2019, the Intergovernmental Panel on Climate Change (IPCC) developed a report on Climate Change and Lands. The report clearly affirms that sustainable forest management aimed at providing timber, fiber, biomass, non-timber resources and other ecosystem functions and services, can lower GHG emissions and can contribute to adaptation. It notes, *"Sustainable forest management can maintain or enhance forest carbon stocks, and can maintain forest carbon sinks, including by transferring carbon to wood products, thus addressing the issue of sink saturation (high confidence). Where wood carbon is transferred to harvested wood products, these can store carbon over the long-term and can substitute for emissions-intensive materials reducing emissions in other sectors (high confidence)."*

Leaving forests alone may seem beneficial to optimize carbon storage, but new research from the Consortium for Research on Renewable Industrial Materials suggests sustainably managing and harvesting forests substantially improves carbon mitigation outcomes[10]. The best uses of wood provide a "carbon negative technology" with the ability to displace fossil emissions. In short, simply planting more trees, then walking away is not enough. We must also harvest and use the wood to optimize the climate change benefits.

To get net negative carbon outputs from forests, trees **must** be harvested and subsequently replanted which is already required by Oregon's Forest Practices Act.

Wildfire Mitigation

Climate Smart Forestry in Oregon, above all, should focus on mitigation of wildfire through sustainable forest management where harvest equals or just under-paces growth.

Congress has been actively discussing the needs for public lands to achieve climate goals.

The Senate Committee on Agriculture, Nutrition, & Forestry met on May 20, 2021 for a Hearing on Federal, State, and Private Forestlands: Opportunities for Addressing Climate Change[11].

On the witness list was Joe Fox, Arkansas State Forester and National Association of State Foresters President. He noted[12], *"Active forest management, supported by forest markets, combined with coordinated wildfire prevention, mitigation, and suppression efforts can substantially mitigate the effects of climate change. The efficacy of forests, forest products, and woody biomass in addressing climate change depends on forest sustainability. Without active management, forests are less resilient to climate change and less effective at sequestering carbon. When forests are actively managed they provide a number of public benefits, including clean air and water, enhanced wildlife habitat, carbon sequestration, recreational opportunities, watershed protection, timber production, and support to rural communities."*

Mr. Fox more specifically explained, *"Commercial harvests make long-term forest sustainability possible. […] Without markets, commercial harvests are not feasible."*

He also described the need for increased management on federal lands and the unique roll that state agencies can play. This work is completed through Shared Stewardship Agreements and use of tools like the Good Neighbor Authority. These tools must be used to the maximum extent possible in order to achieve goals outlined in the CCCP.

On June 29, 2021, House Committee on Natural Resources Ranking Member Bruce Westerman (R-Ark.) and Congressional Western Caucus Chairman Dan Newhouse (R-Wash.) led a forum on skyrocketing lumber costs and potential solutions to the issues[13]. Westerman said during the forum that, *"Declining management of our federal forests, particularly out west, in recent decades has not only shut down hundreds of mills and eliminated thousands of family-wage jobs, but has also fueled the present wildfire crisis wreaking havoc on our western landscape year after year. We must take bold, aggressive action to improve the health of our national forests."* This realization at the federal level should give credence for ODF to continue partnering on federal lands.

The same day that the Senate Committee on Agriculture, Nutrition, & Forestry met, the Senate Committee on Energy and Natural Resources also met.

According to Senator Manchin[14], Chairman of the Senate Committee on Energy and Natural Resources, at the Hearing on Forest Management, Forest Products, and Carbon[15] spoke about the current state of affairs in western forests, "*Aside from the catastrophic loss of life and property, those fires alone generated 25% more carbon emissions than all of California's man-made carbon emissions combined. It's critical that we include forests and wildfire in our conversation about carbon emissions. Our Committee has talked at length about how many of our country's forests are unhealthy and in need of restoration. But when you look at this problem through a "carbon lens, things really come into focus. For example, beginning just in the last couple years, the forests of many Western states now emit more carbon – because of insect outbreaks and wildfires – than*

they absorb. Let me say this another way: according to the latest Forest Service data, the forests of Colorado, Idaho, Montana, New Mexico, Texas and Wyoming used to be carbon "sinks" but are now carbon "sources". However, scientists are telling us that if we pro-actively manage our forests, we can not only prevent emissions from wildfires, but we can also increase the amount of carbon we are sequestering and storing now."

Chairman Manchin is refereeing to a study from the Northern Research Station of the US Forest Service. The study titled Gas Emissions and Removals from Forest Land, Woodlands, and Urban Trees in the United States, 1990-2018[16] shows that issues related to insect mortality and wildfire can easily move forests into carbon sources rather than carbon sinks.

Salvage Operations

Wildfire can be mitigated, but not eradicated. The decisions ODF makes and encourages after fires occur can be just as important for Climate Smart Forestry as those management decisions before wildfires happen.

The inability to remove standing dead and decaying timber will not only contribute to high fuel loads and greater carbon sources in the future but may also diminish managers' ability to reforest these areas safely and effectively.

Furthermore, research by the Forest Service's Northern Research Station shows that young trees pull carbon out of the atmosphere at an exponential rate which enhances carbon sequestration[17] and restores the forests' role as carbon sinks.

Taking common sense and climate-friendly action[18] like removing dead timber from our public lands to reduce future safety and fire risks; processing that wood at local mills to create jobs and lumber to rebuild our communities; and replanting our public lands to avoid fire-caused deforestation and enhance carbon sequestration are all steps in the right direction.

AOL members are already working on private lands helping in these efforts. The importance of keeping our small businesses moving forward is critical. Many AOL members work on the front lines with ODF staff and contribute valuable in-kind contributions every year to the firefighting efforts of the state.

Reforestation and Afforestation

One suggestion that ODF points to in the CCCP is shifting "from traditional forest management to a long-term ecologically sustainable ecosystem" in reference to management decisions after wildfire. AOL finds that this rhetoric although good for biodiversity, may be antithetical to maximizing forest carbon sequestration. ODF needs to fully flesh out what is meant by its problematic thesis about climate-smart management saying non-traditional forests need to be the new reforestation lens because traditional forests are no longer the most suitable approach to achieve maximized carbon mitigation effects (CCCP, pg. 16).

As described above, the forest products sector is circular by design and a major shift away from traditional methods will warrant a massive systemic change that is likely to result in minimal if any carbon and climate benefits. Such a major shift may actually result in less carbon sequestration than traditional methods because fast growing trees equal great rates of carbon sequestration and wood fiber attainment.

ODF should be more thoughtful about its rhetoric, as to ensure the agency is not decreasing the future likelihood of increased carbon sequestration from working forests.

Economic Development and Research

According to OFRI in collaboration with many other state agencies, partners, experts and scientists[19], the forest sector generates more than $18 billion in base economic output, more than 61,000 total jobs that average $56,000 a year in wages and around $8 billion in GDP for Oregon. This accounts for 4.7 percent of total state output, more than 3 percent of state payroll employment and 3.7% of state GDP. ODF should be increasing demand and safeguards for this important sector moving forward. AOL believes the overall impact of the timber industry on Oregon's welfare, employment and GDP warrants increased emphasis by ODF.

ODF should be proposing a focus on research into biomass markets, engineered wood products and a lifecycle assessment of the timber industry in Oregon similar to the work being done in Washington[20] through Washington Forest Protection Association, American Forest Resources Council, Washington State University and others. This data driven messaging is severely needed in Oregon.

Harvested Wood Products Pool and Building with Wood

The harvested wood products pool (HWP) is a major component of any accurate and fully contextualized forest carbon lifecycle assessment. According to Hennigar et. al[21], *"[N]ot accounting for the carbon in wood products underestimates the environmental services provided by forest plantations, and may result in spurious optimization of forest management practices that seek to maximize climate change mitigation (Hennigar et al., 2008)."*

Every day our local wood manufacturing businesses manage for and make products that capture and store CO_2. There is a growing movement to construct more, and larger, wooden buildings[22] in the world's largest cities because elected officials, urban planners, architects, conservation organizations and others are recognizing the environmental potential[23] of this resource.

AOL encourages ODF to recognize and promote the climate benefits from constructing and designing with wood products. According to the American Forest Foundation, building with wood is better for the environment, it helps reduce energy consumption, and improves energy efficiency. Using engineered wood I-joists instead of steel joists results in 22 pounds of avoided greenhouse gas emissions for every square foot of floor.

Engineered wood has been around for half of a century but has been gaining a lot of attention lately[24]. Products such as cross laminated timber (CLT), I-joists, and glulam beams help reduce the need for carbon intensive non-renewable building materials[25] like steel and concrete. New research from Yale[26] 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[27] 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. Oregon has the most engineered wood plants[28] in all of the United States. Oregon grows, mills and engineers the most structural wood in America—doing this better than all other states. ODF should also be maximizing its use and forest production here in Oregon for its dual advantages of carbon capture AND structural storage.

Interestingly, timber industry and its economic impacts aren't just important in Oregon, but the entire United States. The Oregon Blue Book[29] also says, "Oregon is one of the most trade dependent states in the nation." Our export markets are a huge part of Oregon's economic health. Since Oregon is the United States' top producer of softwood lumber, plywood and engineered wood and considering around 75% of all forest products milled in Oregon are exported, it is easy to see the importance of this specific industry to the global wood marketplace. The ability for Oregon's timber industry to remain whole has huge positive effects on the rest of the United States, if not the world.

Nationwide business rental and real estate costs (including those for small businesses), economic growth via business development, general housing costs, amount of affordable housing developments, etc. are all reliant upon Oregon's timber industry and the supply of fiber produced here to benefit the global marketplace. Oregon owes it to the rest of the country to protect this vital industry.

Timber Jobs and Workforce Development

According to the Oregon Blue Book[29] which is developed by the Secretary of State's office, "The forestry sector is another crucial piece of Oregon's economy that supports employment in many private-sector industries and in government agencies. The combined categories of forest sector employment totaled 61,051 jobs in 2017" and "[f]orestry jobs have an outsized impact on the economies of rural counties and pay higher wages." The average wage for timber industry jobs is more than $56,000 which is 3% higher than the state average but often doubles the average salary in rural counties. In most cases, no degree or special training is necessary. You learn and advance on the job. Many who start on logging or other contracting crews eventually branch out and start their own business.

Throughout history, these well-paid, forest sector jobs have drawn all sorts and allowed people from diverse cultures and walks of life to attain the "American Dream". Increasing diversity within the forest sector is good for our industry and our communities. A more diverse workforce provides opportunities for important conversations and shared understanding. Expanded access to these well-paying, year-round jobs also would advance equity and income equality in our state.

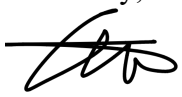
Rather than diminishing these jobs or underplaying their importance to the economy of Oregon and the carbon cycle, ODF should be doing all it can to ensure there is increased access and development of timber industry jobs.

Conclusion

ODF has the opportunity to tell the good story of carbon sequestering forestry practices according to the Forest Practices Act, Tree Farm Certification and Sustainable Forest Initiative Certification; carbon storing and innovative engineered wood and biomass opportunities; and green forest contracting jobs. ODF should instead be protecting robust forest products markets through active engagement in economic development, workforce development and research.

ODF should also focus on wildfire mitigation and cross-boundary work to achieve statewide goals thought Shared Stewardship Agreements, use of Federal Initiatives and statewide strategic planning, rather than seeing forests as simple carbon storage facilities due to the impermanence and risk associated with forests in the age of carbon emitting mega-fires.

Sincerely,



Amanda Astor (She/Her); Forest Policy Manager
Associated Oregon Loggers

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Public Comment
ODF Draft Climate Change and Carbon Plan

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Sent: Wednesday, June 30, 2021 5:03 PM
Subject:Comments for the draft Climate Change and Carbon Plan
Name Laura Wilkeson
Comment/question
Comments from Hampton Lumber were submitted via email to Danny.NORLANDER@oregon.gov on June 30, 2021.

Public Comment
ODF Draft Climate Change and Carbon Plan

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From: Laura Wilkeson
Sent: Wednesday, June 30, 2021 5:01 PM
Subject:Draft CCCP - Hampton Lumber Comments
Attachments: Draft CCCP - Hampton Lumber Comments.pdf
Hi Danny,
Please see the attached comments from Hampton Lumber on ODF's draft Climate Change and Carbon Plan.
Let me know if you have any questions.
Laura Wilkeson
State Forest Policy Director
Hampton Lumber

HAMPTON LUMBER

PO Box 2315
Salem, Oregon 97308-2315
Telephone 503.365.8400
Fax 503.365.8900
www.HamptonLumber.com

June 30, 2021

Via Email: Danny.NORLANDER@oregon.gov

Oregon Department of Forestry
2600 State St.
Salem, OR 97310

RE: Climate Change and Carbon Plan Comments

Dear Chair Kelly and Acting State Forester Hirsch:

Thank you for the opportunity to provide comments on the Oregon Department of Forestry's (ODF) draft Climate Change and Carbon Plan (CCCP). Climate change is a global problem that will need large scale and innovative ideas to solve. The forest sector alone cannot solve this problem, but will play a vital role in addressing climate change.

As noted, this plan will be used to inform several significant policy documents, including the Forest Management Plan (FMP) and the Forestry Program for Oregon. The potential negative impacts could be immense and inequitably distributed throughout the state. ODF should use this opportunity to promote and partner with the private forest sector, encourage the use of wood products, and highlight the full benefits of working forestlands through this plan.

Importance of Wood Products

Wood products are the greenest building material on earth. They sequester carbon and play a major role in helping the world address climate change and meet the growing demand for new housing and construction. By 2060, the earth's population is expected to reach 10 billion. The United Nations estimates that cities will need to construct or renovate an additional 2.5 trillion square feet of building space to accommodate this increase. That's the equivalent to adding another New York City to the planet every month for the next 40 years, according to the non-profit Architecture 2030.

The wood for all this new development and renovation will need to come from somewhere. Timber is a high-demand global commodity. Forest carbon storage schemes that reduce or delay harvests in Oregon's sustainable working forests only serve to export harvests to another region or country. Thirty percent of lumber used in the U.S. is already imported from other countries. Reducing log supply from Oregon forests will only increase our reliance on imports.

If Oregon is interested in taking meaningful action to address global climate change vis-a-vie its forests, it should be promoting and expanding use of sustainable, locally produced wood products though policies that promote the substitution of wood for non-renewable, high emissions materials

like steel and concrete. With nearly 40 percent of global human-caused carbon emissions coming from construction and the built environment, rethinking what we build and how we build it should be a top priority in our fight against climate change. Luckily, the state is already well-positioned to be a leader in using wood products to help meet our climate goals in thoughtful and productive ways that benefits all Oregonians.

However, without a steady and sustainable delivery of wood fiber to local mills, our ability to produce these products will be limited. Reduced or delayed harvests will only hurt rural communities, force consumers to purchase nonrenewable and carbon intensive products, and increase harvest in places with less stringent environmental laws than we have in Oregon.

Inaccurate Depictions of Modern Forest Management

The language used in this draft plan is at times inaccurate and irresponsible. At several points, references are made with regard to extending rotation ages, deferring harvest, and incentivizing landowners to manage forests with the singular focus of sequestering carbon, omitting the real-world direct and indirect impacts such policies will have on other forest values, not to mention carbon emissions elsewhere. There is also language that implies that "traditional forest management," "planted stands," or "business-as-usual" is somehow detrimental to our climate change goals. There is even a mention of "resource degradation," which incorrectly implies that forest management is akin to deforestation. There are more trees today than there was a century ago, thanks in large part to the forest products industry. As ODF finalizes this plan, we encourage you to revisit this language to ensure it is both accurate and reflective of the diverse values that "traditional" working forests provide the state. Oregon has some of the most protective forest practice laws in the world and our science-based forestry regimes should be encouraged and recognized as part of the solution, not the problem.

The draft plan mentions encouraging "reforestation of burned lands" and to "restore ecosystem function and carbon sequestering trees to fire affected areas". Restoration after fire should be a priority for all landowners, but the draft plan fails to mention salvage logging of burned stands. Salvage not only allows the landowner to recover financial losses caused by the fire, but also generates revenue for local communities and prepares the stands to be replanted for faster recovery. Take the Tillamook State Forest for example. After the Tillamook Burn, stands were heavily salvaged and replanted. The Tillamook State Forest now provides benefits to all Oregonians by providing recreation, ecosystem services, and economic activity from timber harvest. Salvage and reforestation should be prioritized on all lands that suffer wildfire damage.

Undermining the Role of State Forests

The draft plan states that "the Department will lead by example and demonstrate climate-smart forest management on State Forests to achieve Greatest Permanent Value" (GPV) and that concept will be incorporated into the FMP. State forests already sequester the highest amount of carbon across all landowners in Oregon. ODF is also pursuing a habitat conservation plan that would limit the acres available for timber harvest to less than half of the land base. Non-management is a management decision, but not one that ODF must take. The state is obligated to balance social, environmental, and economic values.

State forests play a critical role to the delivery of wood fiber to local mills. As previously mentioned, renewable wood products should be amplified to provide sustainable options to consumers and create healthy forests and communities. Active management and timber harvest from state forests must be part of the solution to addressing climate change.

Setting aside more stands to grow unmanaged would replicate the devastation witnessed on our federal forests where surrounding communities have deteriorated and forest ecosystems have grown unhealthy and prone to severe wildfire. It should be noted that mega-fires are significant contributors to greenhouse gas emissions in the state. One large fire year (roughly 1 million acres burned) can emit up to 15 million tons of carbon. That's twice as much carbon as all the cars in Portland emit in one year.

The draft plan states that "the Department, and specifically the State Forest Division, should work towards determining an internal carbon price for the lands and forests that it manages." The plan does not go into details or specifics, but mentions "a variety of measures from selling carbon offsets to adjusting harvest to capitalize on changing long-lived product ratios." Can ODF explain what "long-lived product ratios" are? If the intention is to replace traditional markets with carbon markets for state forestlands, rural communities will pay the price. The economic activity that is generated from harvest on state lands goes far beyond the direct revenue from the sale. It is impossible to know what the true cost of carbon offsets will be until a thorough socio-economic study and cost-benefit analysis is done. The lost downstream benefits of harvest must be fully understood and considered before priorities are adjusted or carbon offsets are factored into a long-term management plan.

Inequities and Information Gaps

Executive Order 20-04 directs agencies to "prioritize actions that reduce GHG emissions in a cost-effective manner". How does ODF plan to implement this directive? As previously mentioned, there are a myriad of potential costs to making drastic changes to forest management practices and policies. How will ODF calculate these costs and mitigate them?

The draft plan mentions the use and guidance of "best available science" in several sections. This is essential. The definition of the best available science should at a minimum mean using empirical on-the-ground evidence to back up any modeling, all of which should be available for public review. Peer reviewed science and widely accepted carbon protocols must be the driver of decisions made by ODF. Using these standards will help alleviate unrealistic political pressure to go beyond what is feasible.

There are also significant gaps in ODF's current understanding of the full socio-economic impacts that state forest harvests have on surrounding counties and communities. This information is not available because the research has not been commissioned. Moving significant policy changes forward without this information is unacceptable. As mentioned earlier, the social and economic benefits of state forest harvest greatly surpass any direct payments made from the sale of state timber. Unless ODF conducts a full socio-economic analysis of the impacts of harvests on surrounding communities, we will not know whether the proposed measures are cost effective.

There could be far more effective and less harmful ways to mitigate climate change in this state, but potential tradeoffs won't be fully understood until the agency knows the true value of state timberlands.

Finally, the draft plan states that,

> "Working with partners to incentivize landowners to defer harvest voluntarily can lead to greater sequestration and storage over the next 30 to 50 years (e.g., 2050-2070), a period when our natural and working lands will be leaned on heavily until technologies and other sectors can catch up and work to reduce atmospheric carbon."

Why should the forest sector be responsible for carrying the weight of sequestering emissions generated by other sectors? This puts an undue burden on the industry while giving a pass to those who continue to emit carbon. We need economy-wide solutions to address climate change that focus on areas where we can have the greatest actual impact on global climate change. Relying on rural Oregon to bear all the costs of carbon offsets is deeply inequitable, particularly given other sectors and urban areas would be able to claim the credit while still emitting carbon.

Again, the forest sector should be considered partners in mitigating the effects of climate change. We appreciate the ability to provide feedback on this plan and would welcome the opportunity to work directly with ODF as it continues to develop this and other forest management plans.

Sincerely,

Laura Wilkeson
State Forest Policy Director
Hampton Lumber

Public Comment
ODF Draft Climate Change and Carbon Plan

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Sent: Wednesday, June 30, 2021 5:00 PM
Subject:Comments for the draft Climate Change and Carbon Plan
Name A Michael Dianich
Comment/question
June 30, 2021 to: Oregon Dept. of Forestry subj. ODF Climate Change and Carbon Plan (Climate Plan) This email comment is pertinent and directed to your proposed Climate Plan. As background, I live on a forested 5 1/2 acre plat on the western slope of Larch Mountain. We purchased the property ca. 1970 and simultaneously proceeded to build a residence and plant approximately 800 tree seedlings, mostly Douglas Fir. Over the years, storm damage, drought and insect predation have taken their toll. Now about 10% remain, all about 100 ft tall. In the Past I have volunteered as a tree planter on the Sandy River Delta and more recently volunteered Hemlock trees and planting around the Nesika Lodge area burned by the Eagle Creek Fire. Please note that we have irrefutable evidence for the last 30+ years from numerous scientific entities and studies that anthropological global warming is increasing at an exponential rate. Anyone who has climbed Mt Hood or similar can attest to a 50-55% reduction of glaciation over the last 100 years, Since then actions have not been up to the task or preventing conditions that will disrupt life as we know it on our planet. The fastest and least expensive way to combat CO2 buildup is through preservation of our boreal forests, enhancement of late successional forests, inclusive protections of young forests and accelerated planting and nursing of new forests. New forests could be large scale reforestation, a requirement to have increased percentage of trees on a parking lot, building lot, along city streets and almost anywhere there is not grass, concrete or asphalt. We have no good models to predict climate when arctic ice melts and tundra methane feedback kicks in, but we need to prepare for the worst. Failure to act boldly could lead to incineration of the planet in our children's lifetime. Thank you for the opportunity to comment and please accept my apology for the brevity of these comments. Yours very truly, A Michael Dianich.

Public Comment
ODF Draft Climate Change and Carbon Plan

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Sent: Wednesday, June 30, 2021 5:00 PM
Subject:Comments for the draft Climate Change and Carbon Plan
Name Candace Bonner
Comment/question
ODF's Climate Change and Carbon Plan is appreciated and urgently needed. Thank you for the opportunity to comment. We are in a state of climate emergency, and have been for some time. Last year when it seemed the whole western United States was going up in flames, this was brought home. As a small woodland owner, bordered by industrial timberlands and by BLM, this has been real to me long before the Labor Day fires. And this week, when just stepping outside was too hot to be tolerable, and I watched the top surfaces of branches of fir, hemlock and cedar turn brown and scorched, and fallen needles were everywhere, I wondered whether I would have a forest at all in the future if this kind of heat lasted weeks instead of days. There is much strength in the Draft Plan. The commitment to climate smart forestry leadership, the commitment to best available science, to monitoring and accountability are among the strengths. However it should be clearer that this is an emergency, that mitigating climate change is the first in the list of greatest permanent value, that we need to do a much better job of riparian protection (I speak from 20 years of direct observation on multiple ownership types.) It is a strength that on page 28 delayed harvest rotations is mentioned, though I have little faith that making this voluntary will be effective. We truly are in an emergency, and I would like to see the Governor declare a climate emergency, and use her powers to mandate delayed rotations, a moratorium on clearcutting, a moratorium on cutting older and more diverse forest stands, and mandate better riparian protections until we have made progress in decreasing GHG emissions and we are not careening from one devastating climate emergency to another. I have run out of time, and will comment again with the next draft. Thank you again for formulating this plan with its many strengths, and I hope there will be a commitment to recognizing mitigating climate chance should be the first priority of our forest managment.

Public Comment
ODF Draft Climate Change and Carbon Plan

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Sent: Wednesday, June 30, 2021 4:20 PM
Subject:Comments for the draft Climate Change and Carbon Plan
Name George Mears
Comment/question
Any recommendations that support clearing the forest of excess fuels gets my support.

Public Comment
ODF Draft Climate Change and Carbon Plan

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Sent: Wednesday, June 30, 2021 3:12 PM
Subject:Comments for the draft Climate Change and Carbon Plan
Name James Neu
Comment/question
Oregon Dept. Of Forestry, I thank ODF for establishing a draft Climate Change Carbon Plan hopefully to establish Oregon as a global leader in "climate smart forestry". However, I am curious as to exactly what ODF defines as "climate smart forestry". Does this give an exact amount of carbon sequestered and over what timeframe? Currently, the timber industry is the largest emitter of greenhouse gas emissions in the State of Oregon. Studies have shown (Law 2018) logging carbon emissions average 33 million metric tons/ year on average since 2000. ODF's intent to quantify carbon emissions from logging is commendable considering relying on wood products to store carbon results in only 20%. I look forward to seeing the study results. Lengthening logging rotations to 80 to 120 years would maximize carbon sequestration which over time increases timber yield and quality while providing for a healthier forest more resistant to wildfires. Older forests provide multi-level canopies with mixed species, provides larger riparian area protection, and allows larger trees to help regrow the forests. Timber harvesting is a substantially more significant source of greenhouse gas emissions than wildfire. Only 5-10% of stored carbon on the landscape is released during a wildfire compared to over 50% emitted by logging. Woody biomass as a fuel source is not carbon neutral and burns inefficiently and increases air pollution. I urge you to use the Social Cost of Carbon to quantify the benefits to Oregonians in order to increase sequestration of living forests which provide clean drinking water, recreation, tourism, species protection and job development rather than advancing timber harvests. There is no time like the present to take bold action and create a new approach that prioritizes natural climate solutions as a central strategy in the state's efforts to combat climate change through forest carbon sequestration. Thank you for the opportunity to comment. James Neu

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Sent: Wednesday, June 30, 2021 2:58 PM
Subject:Comments for the draft Climate Change and Carbon Plan
Name Sara Worl
Comment/question
Please include monitoring the impacts of post-fire logging to the monitoring section of this plan, as suggested in the USDA synthesis report on the topic: https://www.fs.fed.us/pnw/pubs/pnw_gtr975.pdf Particularly concerning, and relative to climate change, are initial findings that post-fire logging alters micro climates by increasing surface temperatures and lowering humidity: "Effects of postfire logging on abiotic variables are just beginning to receive attention. Recent studies have examined microclimatic changes following salvage logging, as well as the impact of the practice on carbon sequestration and storage. One study observed that surface air temperatures did not increase in logged stands, but noted other small microclimatic changes (such as earlier daytime heating and lower nighttime minimum temperatures) attributed to postfire harvest (Fontaine et al. 2010). Researchers documented a marked decrease in the amount of carbon stored in salvaged sites, particularly those that received intensive management (Powers et al. 2013). The authors of this study emphasized the competing interests of managers, who are likely to include carbon sequestration in an already complex analysis of how best to manage forests. Although more research has been conducted in the period since 2000, results are not conclusive, and much remains to be learned about salvage logging impacts on soils and the abiotic environment, both within salvaged sites and at the landscape level." Nemens et al 2019, p 10 And, the impacts of post-fire logging as they pertain to climate change, soil health, and watersheds: "Other effects on soils from postfire logging, such as effects on soil nutrients, soil microbial and fungal communities, and cation exchange capacity, can be difficult to distinguish from the often greater influence of the initial wildfire. However, some studies have noted lasting effects of salvage logging on certain soil parameters, most notably reduction in soil organic carbon (Jennings et al. 2012, Kishchuk et al. 2014). Another study documented changes in soil biogeochemistry, but only in certain horizons (Poirier et al. 2014). Bacterial and fungal communities in soils appeared to be resilient to the disturbance caused by postfire logging (Jennings et al. 2012). Similarly, the influence of postfire harvest on water quality and stream biota can be difficult to distinguish from the signal of wildfire; however, certain parameters show detectable differences (Emelko et al. 2011, Silins et al. 2014)," Nemens et al 2019, p 9 Monitoring these impacts and adjusting management accordingly is imperative to supporting the long-term health of our forest ecosystems and the communities that rely on them. ---- In writing this plan: Do not exclude cumulative annual emissions from logging operations from climate planning. Studies estimate that annual logging-related emissions average 33 million metric tons of carbon dioxide equivalent per year since 2000. (Law et al 2018) Do not overestimate carbon storage in harvested wood products. In Oregon, 65% of wood carbon harvested since 1900 has returned to the atmosphere and only 19% remains in long-term products (Hudiburg et al 2019). Do not define biomass as carbon neutral. Woody biomass emits significant amounts of carbon when burned to produce energy. (McKechnie et al 2019) Air pollutants released from biomass power plants disproportionately burden vulnerable communities, including low income and BIPOC communities. --- Hudiburg, T.W., Law, B.E., Moomaw, W.R., Harmon, M.E. and Stenzel, J.E. 2019. Meeting GHG reduction targets requires accounting for all forest sector emissions. Environ. Res. Lett. 14 095005. https://iopscience.iop.org/article/10.1088/1748-

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Public Comment
ODF Draft Climate Change and Carbon Plan

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Sent: Wednesday, June 30, 2021 2:39 PM
Subject:Comments for the draft Climate Change and Carbon Plan
Name Kate Evans
Comment/question
ODF's Climate Change and Carbon Plan is to be commended for taking the climate crisis seriously and wanting to have "Oregon a leader in climate change mitigation and adaptation and in promoting smart forestry.' We need to use the best available science and recognize that industrial forest management as currently practiced is NOT climate smart. Climate smart forestry involves longer logging rotations of at least 80 years, identification and protection of carbon-rich mature and Old Growth forests, and utilization of variable retention harvest practices and promotion of diversity of species. We also should not promote woody biomass as a carbon neutral fuel source. Our forests have an amazing capacity to store and sequester carbon. Let's use climate smart forestry to make it happen.

Public Comment
ODF Draft Climate Change and Carbon Plan

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Sent: Wednesday, June 30, 2021 1:55 PM
Subject:Comments for the draft Climate Change and Carbon Plan
Name Lise Colgan
Comment/question
1. Old growth forests--of any species--need to be TAKEN OFF THE TABLE for timber harvesting. These forests are some of the most efficient carbon sequestration areas on the planet and CANNOT BE REPLACED. The benefits they provide to climate far exceed the temporary financial gain they may afford a handful of individuals and/or corporations. 2. The plan needs to recognize that changing climate will result in a drier landscape with more prolonged drought, especially south of Roseburg and east of the Cascades. This will make reforestation of such areas much more difficult. Thus, harvesting in these areas should be minimal or eliminated entirely, except as necessary for thinning to decrease fire risks/impacts. Even west of the Cascades it is probable that our forests will be getting hotter and drier. Cutting down trees only exacerbates this feedback loop, making reforestation efforts less likely to succeed. What worked 20 years ago is NOT going to work today, or 20 years in the future. New technology to provide supplemental moisture to reforested areas will almost certainly be needed. How will this be achieved?

Public Comment
ODF Draft Climate Change and Carbon Plan

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Sent: Wednesday, June 30, 2021 12:38 PM
Subject:Comments for the draft Climate Change and Carbon Plan
Name Rich Peppers
Comment/question
I'm writing to comment on the draft Climate Change and Carbon Plan: Thank you for this draft plan, and thanks in advance for the work ahead of you of refining and implementing it. I appreciate this plan must be a work-in-progress. Here are my thoughts, as a layperson with a deep personal interest and connection to Oregon's natural lands: Overall, I appreciate and agree with the plan's starting point in that it recognizes climate change is occurring very rapidly and is becoming a threat on many fronts and that ODF must follow the best available science to meet these threats with decisive action that keeps our forests healthy while reducing emissions from forestry and increasing the sequestration potential of our forests and soils. And, the report flags the need to reconcile industrial forest management practices with climate smart forestry while using the best available science to help determine just how much active forestry management is needed to keep a forest healthy. I also appreciate the Plan's emphasis on applying an equity lens to all the work ODF does through this plan, and to make that equity lens "real" by having an advisory body of representatives of frontline disadvantaged communities play a role in the development of further iterations of this plan. Where I would seek to strengthen this draft Plan is in particular in two areas: 1. Provide more definition to the term "best available science" - such as describing some of the main current science-based insights about how to maintain a sustainable forest which require a departure from the previous "business as usual" approach; or how to determine whether biomass is truly carbon-neutral when burned or how much carbon sequestration can be ascribed to forest products. 2. Fill in some of the elements the ODF vision for the "Climate Smart Forestry" approach to forest management, such as (I hope), incentivizing forestry with a diversity of species of trees (and disincentivizing monoculture forestry); increasing the amount of time between tree harvests to increase CO2 sequestration; and protecting areas with high carbon potential such as native stands of trees that have never been logged.

Public Comment
ODF Draft Climate Change and Carbon Plan

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Sent: Wednesday, June 30, 2021 12:18 PM
Subject:Comments for the draft Climate Change and Carbon Plan
Name Teresa Mueller
Comment/question
Thank you for beginning the process of creating climate-smart forestry in our state. As you develop protocols, please establish serious and measurable limits on carbon emissions and carbon loss due to logging of our precious forest lands. Yes, a lost tree can be replaced. Old and medium growth natural forests cannot be replaced in our lifetimes, or, rather, it will be too late for our species! Like many, I was shocked to learn how massive Oregon forestry and agricultural CO2 emissions are. This can and must be addressed. HOWEVER, I am heartened to hear acknowledged the role of state forests as carbon reserves. Our forests represent a bounteous answer to the global crisis of climate change. We must rise to the level of a world player on this stage. Expanding logging rotations to a century would make such a difference to climate preservation, as would expanding riparian zones, having a hands off approach to old growth and complex forest ecosystems, and developing a forest stewardship program to help land owners make reasoned decisions. I also appreciate an expanding discussion on wildfires, since the science shows us that logging itself contributes five to ten times as much to the greenhouse effect as wildfires do. Even the way we dispose of materials in the forests is an important consideration, and I hope your plan will not jump to burning woody debris, for instance, without consideration of what that adds to carbon loss and air pollution. I personally would vote for spending more tax money in our forests as the ODF becomes more forward thinking in its actions, as opposed to following the old patterns which value forests more for timber than for air and water quality, carbon sequestration, recreation, ecosystem preservation, and tourism. Finally, lets make new jobs in the restoration and preservation sector of the forest service. Train people and pay them well. My daughter, now a senior at University of Oregon, participated in an excellent (on-going from year to year) hands-on land restoration project this last term. The land owner (berry farmer/small timber, etc) gets some help and the students do the science, measuring and quantifying various improvements over the years. What about putting more of these university students in our forests, to learn, share ideas, and create a more educated citizenry that values nature for its many gifts to us?

Public Comment
ODF Draft Climate Change and Carbon Plan

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Sent: Wednesday, June 30, 2021 11:03 AM
Subject:Comments for the draft Climate Change and Carbon Plan
Name Randy Knop
Comment/question
Climate change is one of the most significant global challenges of our time, and addressing it requires the urgent formulation of comprehensive and effective policy responses. A changing climate affects nearly every sector of our economy and is intricately intertwined with other major environmental threats such as population growth, desertification and land degradation, air and water pollution, loss of biodiversity, and deforestation. To date, most of the attention directed toward combating climate change has been strikingly insufficient and focused primarily on the industrial and energy sectors. With the agriculture, forestry, and other land use sectors treated as an unwelcome distraction from tackling industrial and energy-related emissions, rather than being seen as an integral part of the climate change problem for which we must develop comprehensive solutions. The resulting bias has led negotiators to disregard the major role forests and agricultural systems play in climate change. In the context of widespread controversies and a lack of knowledge negotiators previously agreed to too little too late. This result is not withstanding the recognition that negotiators with the adoption of responsible rules can renew hope, restore credibility, and establish rules that clearly make sense. Any attempt to stabilize atmospheric greenhouse gas (GHG) concentrations will require bringing land-use-related emissions and removals into the equation and this is where your work in generating policy is critical to ensuring our forested lands are properly protected. Deforestation and reforestation options can and should be used effectively. Curbing deforestation is a highly cost-effective way of reducing greenhouse gas emissions and has the potential to offer significant reductions fairly quickly. It also helps preserve biodiversity and protect soil and water quality. Encouraging new forests and enhancing the potential of soils to store carbon offer further opportunities to reverse emissions from land use change. The idea that an effective agreement as to policy, must embody and include a comprehensive system that allows for the accounting of land-use-related emissions and removals and establishes incentives to reduce emissions from deforestation is but common sense to any plan being considered. With a view to the current debate, the role of forestry and agriculture in current policies cannot be overstated. Oregon's remaining forest ecosystems are the last natural line of defense. While all parties agree that our forest ecosystems are sensitive to climatic change. They are not however able to withstand great stress caused by significant changes in the conditions of an ecosystem. Thus, massive areas of forests could be lost from these climate-induced threats, which in turn could further accelerate climate change in a vicious manner. On the other hand, land-based activities represent one of the most significant untapped opportunities for mitigating climate change: —Simply leaving mature forests intact will lock up significant amounts of carbon that might otherwise be released into the atmosphere. Land-use changes, predominately deforestation, currently contribute about one-fifth of global carbon emissions. What we do know is that deforestation is the greatest source of GHG emissions. Reducing emissions from deforestation may be one of the most cost-effective tools for reducing GHG emissions and could give people the time needed to mobilize the resources and develop the technology for "decarbonizing" the world's energy and industrial production. —Sustainably managed forests supported through sound policy will be key to your successes and the future of our living environment. Other recommendations I

ask that you consider in your deliberations… **Reduce logging emissions. Transition Oregon forests from a leading source of emissions to a much larger carbon asset. We appreciate your call to quantify the emissions from logging! (Note: Studies estimate that annual logging-related emissions average 33 million metric tons of carbon dioxide equivalent per year since 2000.This means that logging is the largest source of emissions in the state. (Law 2018. PNAS https://www.pnas.org/content/115/14/3663.) **Protect more State Forest land- Identify areas with high carbon storage potential such as mature and old growth forests, as they sequester immense amounts of carbon. Set aside state forest lands as carbon reserves that are more important for drinking water production and species protection such as endangered salmon runs. **Ways to increase sequestration. We agree that incentivizing conservation of mature and old growth forests on private lands is essential along with use of forest stewardship certification that requires higher green tree retention on the land, larger riparian area protection, growing mixed species and leaving the largest trees to help regrow forests. **Lengthening logging rotations to 80 to 120 years help to optimize carbon storage. This needs to be done as quickly as possible. This will increase timber yield and timber quality in the future. **Increasing sequestration in the forest (both uptake and storage) is much more important than relying on wood products to store carbon when less than 20% is stored in long-term wood products. **We appreciate the concern about fire-wise management to prevent damage from fire, but logging is a far more significant source of greenhouse gas emissions than wildfire, particularly on the west side of Cascades. Only 5-10% of stored carbon on the landscape is released during a wildfire compared to over 50% emitted by logging. **Do not promote woody biomass as a carbon neutral fuel source. It burns inefficiently and increases air pollution. **Change the discussion of forests roles. We urge you to further explore the concepts of community forests and developing the language to elevate the benefits besides timber such as drinking water, recreation and tourism, species protection, and job development in other harvesting and fisheries. Please use the tool of the Social Cost of Carbon to quantify the benefits to Oregonians to increase sequestration of living forests rather than advancing timber harvests. Keep in mind the broader context, we are hopeful you will find our comments interesting and useful for understanding the increasingly complex climate change negotiations under way today. We further hope that a deeper understanding of the interlinkages between climate policy and forestry will help negotiators define a robust and enduring framework for reducing GHG emissions from all sources while providing the right incentives for the conservation and sustainable use of the earth’s most precious natural resources. Respectfully Randy L Knop

Public Comment
ODF Draft Climate Change and Carbon Plan

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Sent: Wednesday, June 30, 2021 11:10 AM
Subject:Comments for the draft Climate Change and Carbon Plan
Name Helen M Kennedy
Comment/question
Thank you for taking my comments. In March 2020, Governor Brown directed the Department of Forestry and its Board to take bold action to increase forest carbon sequestration and reduce greenhouse gas emissions. Under prior leadership, very little was accomplished. That means you both need to make up for lost time. In order to provide what Oregonians need to both reduce emissions and significantly increase carbon sequestration is much more aggressive than outlined in this draft plan. This need is greater because, primarily, the massive life, safety and economic impacts of the climate crisis have been underestimated, and the former Department leadership refused to follow the evolving science and economics on logging emissions, forest sequestration and climate fires like last year's labor day fires. Just last week, the upcoming report from the UN International Panel on Climate Change acknowledged that the climate is changing more quickly than estimated by them in 2018 and we will pass signifant tipping points in the next 10 years. Their message is clear: act boldly and substantially now,this decade, or the human survival over the next century will be threatened. That is because human genes cannot adapt to the rapid climate changes, meaning that parts of the earth with be uninhabitable and mass migration and deaths will result, and large swaths of the planet will have to adapt quickly to different food and forest products. Those forest products include the ability to support economically viable Douglas fir forests. So, please do the following to help the Department and its plan truly make a difference for Oregon. First, require and encourage logging practices that prevent disruption or destruction of forest soils and understory habitat. Protect water quantity and quality as downstream users, especially farmers, need that water. It will help keep forests moisture higher and brunt some forest fires and climate (drought and wind driven) fires. Second, reserve state forests old growth for carbon sequestration. Third, require logging cycles to be at least 90 years, and encourage them to be 130 years or more. Thank you, Helen Kennedy Marcola, OR ... evacuees from 2020 Holiday Farm fire

Public Comment
ODF Draft Climate Change and Carbon Plan

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Sent: Wednesday, June 30, 2021 8:55 AM
Subject:Comments for the draft Climate Change and Carbon Plan
Name Sara Grigsby
Comment/question
Thank you for your mission to establish Oregon as a global leader in climate-smart forestry. Here are a few comments that I believe are critical to taking this seriously and making real change: Further define climate-smart forestry for how much more carbon we should sequester with timeline Critical to this is reducing logging emissions. and a commitment to transitioning Oregon forests from a leading source of emissions to a carbon asset. Protect more State Forest land- Identify areas with high carbon storage potential such as mature and old growth forests, as they sequester immense amounts of carbon. Set aside state forest lands as carbon reserves. Thank you for incentivizing conservation of mature and old growth forests on private lands along with use of forest stewardship certification that requires higher green tree retention on the land, larger riparian area protection, growing mixed species and leaving the largest trees to help regrow forests. Increasing sequestration in the forest (both uptake and storage) is more important than relying on wood products to store carbon when less than 20% is stored in long-term wood products. I appreciate the concern about fire-wise management to prevent damage from fire, but logging is a far more significant source of greenhouse gas emissions than wildfire. The answer to wildfires isn't clearcutting. Finally, I urge you to further explore the concepts of community forests and developing the language to elevate the benefits besides timber such as drinking water, and species protection. Thank you! Sara

Public Comment
ODF Draft Climate Change and Carbon Plan

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Sent: Wednesday, June 30, 2021 7:40 AM
Subject:Comments for the draft Climate Change and Carbon Plan
Name Donna Sharp
Comment/question
DO: Situate Oregon as a global leader in climate-smart forestry and transition Oregon forests from a leading source of emissions to a carbon asset. Identify areas with high carbon storage potential, mature and old growth forests, and stands that have never been logged. Mature and old growth forests store and sequester immense amounts of carbon. Wherever native stands of large trees exist on public lands, they should be protected as climate reserves. Incentivize conservation of mature and old growth forests on private lands. Lengthen logging rotations. Current standard logging rotations undermine the ability of forests to optimize carbon storage. By allowing trees to grow for longer time periods, managers can improve carbon stocks while also increasing timber yield and timber quality. Increase green tree retention on the land during harvest and promote diversity of species as opposed to monoculture plantations. Greater retention of standing trees (especially bigger and older trees) after logging will keep more carbon on site, help to make regrowing forests more resilient to natural disturbance, increase availability of native seed stock for future restoration efforts, and provide for more higher-quality habitat for native species. Focus resources on community-preparedness for climate-influenced wildfires. In Oregon, logging is a far more significant source of greenhouse gas emissions than wildfire, particularly on the west-side of Cascades. Only 5-10% of stored carbon on the landscape is emitted during a wildfire compared to over 50% emitted by logging. DON'T: Exclude cumulative annual emissions from logging operations from climate planning. Studies estimate that annual logging-related emissions average 33 million metric tons of carbon dioxide equivalent per year since 2000. This means that logging is the largest source of emissions in the state. Overestimate carbon storage in harvested wood products. In Oregon, 65% of wood carbon harvested since 1900 has returned to the atmosphere, and only 19% remains in long-term products (Hudiburg et al. 2019). Define biomass as carbon neutral. Woody biomass emits significant amounts of carbon when burned to produce energy. Air pollutants released from biomass power plants disproportionately burden vulnerable communities, including low income and BIPOC communities. Operate in a vacuum. The state should make every effort to collaborate with other agencies and stakeholders in Oregon and beyond working to mitigate and adapt to climate change. Continue on with the status quo! Oregon's decision-makers must take a step back and reevaluate some of the deeply ingrained policies and practices that have defined how Oregon approaches natural resources management. We must take bold action to address the climate and biodiversity crises before us--the impacts of which have and will continue to most heavily burden historically underserved and underrepresented Oregonians.

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Sent: Wednesday, June 30, 2021 6:20 AM
Subject:Comments for the draft Climate Change and Carbon Plan
Name Deborah Clark
Comment/question
Now is the time to prioritize natural climate solutions as a central strategy in the state's efforts to combat climate change. 1. When planning for climate solutions, it is crucial that the cumulative annual emissions from logging operations are included. a) Logging is the largest source of greenhouse gas emissions in the state. Studies estimate that annual logging-related emissions average 33 million metric tons of carbon dioxide equivalent per year since 2000. Between 2011–2015, forest fires only accounted for 4% of Oregon's total carbon emissions each year, whereas logging accounted for roughly 35%. (1, 2) 2. Identify areas with high carbon storage potential, mature and old growth forests, and stands that have never been logged. Mature and old growth forests store and sequester immense amounts of carbon. Wherever native stands of large trees exist on public lands, they should be protected as climate reserves. Incentivize conservation of mature and old growth forests on private lands (3) (4). 3. Lengthen logging rotations. Current standard logging rotations undermine the ability of forests to optimize carbon storage. By allowing trees to grow for longer time periods, managers can improve carbon stocks while also increasing timber yield and timber quality. (5) References (1) Land use strategies to mitigate climate change in carbon dense temperate forests - Law, Beverly E. et al. (2018) http://www.pnas.org/content/115/14/3663 (2) OSU Research confirms that Big Timber is Oregon’s leading source of greenhouse emissions - Talberth, John (April 30, 2018) https://sustainable-economy.org/osu-research-confirms-big-timber-leading-source-greenhouse-gas-emissions-oregon/ (3) High-Biomass Forests of the Pacific Northwest: Who Manages Them and How Much is Protected? - Krankina, Olga N., et al. (2014) https://link.springer.com/article/10.1007/s00267-014-0283-1 (4) Rate of tree carbon accumulation increases continuously with tree size - Stephenson, Nathan, et al. (2014) https://www.nature.com/articles/nature12914 (5) Potential greenhouse gas reductions from Natural Climate Solutions in Oregon, USA - Rose A. Graves et al. (April 10, 2020) https://doi.org/10.1371/journal.pone.0230424

Public Comment
ODF Draft Climate Change and Carbon Plan

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Sent: Wednesday, June 30, 2021 12:20 AM
Subject:Comments for the draft Climate Change and Carbon Plan
Name John F Christensen
Comment/question
My wife Julie and I are small woodland owners of an 80-acre forested farm in East Multnomah County. We are among the first Oregon family forest owners to enter an agreement with the California Air Resources Board to sequester carbon and sell carbon credits on the California exchange. We are in a working partnership with Forest Carbon Works (https://forestcarbonworks.org/) to help us manage the forest for its maximum carbon storage potential. We are currently exploring placing our land in a conservation easement to protect the forest and allow it to mature into a multi-layered, multi-species forest ecosystem. I was encouraged to read your Draft Climate Change and Carbon Plan, particularly your emphasis on making Oregon a leader in "climate smart forestry." I suggest you strengthen your definition of climate-smart forestry to include the following concepts: Climate smart forestry relies on forest stewardship that increases carbon storage across the forest landscape while also recognizing the need to increase forest resilience. Research shows that the biggest bang for the buck from natural climate solutions is to keep trees in Pacific Northwest forests standing longer before logging them – 80 years or more can provide good timber production while increasing stored carbon. We also need to keep more diverse species of trees - especially mature and old growth trees - on the land. If we do this, we increase stored carbon, promote biodiversity, and protect our drinking water supplies. Other ways to increase the robustness of your plan in addressing climate change would be the following: • Account for the large contribution of industrial clearcut logging to carbon emissions. Studies estimate that annual logging-related emissions average 33 million metric tons of carbon dioxide equivalent per year since 2000.This means that logging is the largest source of emissions in the state. (Law 2018. PNAS https://www.pnas.org/content/115/14/3663.) • Provide assistance to private small woodland owners to manage their forests for increased carbon sequestration. This might include helping them enter agreements to sell carbon credits on existing offset markets. • Incentivize private forest landowners to establish conservation easements through tax credits, and promote further development of private nonprofit land trusts to hold these conservation easements. • Help develop legislation to establish a carbon offset exchange system in Oregon by joining existing systems such as California's. • Work to expand the categories and definitions used in Oregon's land use system to promote carbon sequestration. For example, our farm is currently zoned "commercial forest use" (CFU), but the addition of definitions such as "forest carbon sequestration use" (FCSU) would be more in alignment with your plan. • Make mention of the fact that increasing sequestration in the forest (both uptake and storage) is much more important than relying on wood products to store carbon, when less than 20% is stored in long-term wood products. • Do not promote woody biomass as a carbon neutral fuel source. It burns inefficiently and increases air pollution. I appreciate the thought and research that has gone into your draft thus far, and I applaud your evidence-based approach.

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ODF Draft Climate Change and Carbon Plan

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Sent: Tuesday, June 29, 2021 5:39 PM
Subject:Comments for the draft Climate Change and Carbon Plan
Name Karen Rainsong
Comment/question
I think this is a great plan and I applaud your efforts to protect our natural resources and the carbon storing power of our forests. Thank you! Please keep it up!

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From: Amy Delahanty
Sent: Tuesday, June 29, 2021 4:48 PM
Subject:Re: Updated invitation: ODF CCCP Stakeholder Assessment Session @ Tue Jun 29, 2021 12pm - 2:30pm (PDT) (Jasmine Zimmer-Stucky)
Hi Andrew,
Thanks! I've cc'd Danny to let him know as things progress with the draft CCCP.
amy
On Tue, Jun 29, 2021 at 2:59 PM

Hello Amy,
Thank you for the meeting invite. Can you please swap my email address [redacted]) in for Jasmine Zimmer-Stucky for this email list? I would like to attend meetings related to ODF CCCP stakeholder assessment meetings.
Thank you.
Andrew Mulkey
Rural Lands Attorney

Are you getting these emails? Updated w/ meeting agenda.
Jasmine Zimmer-Stucky (she/her <https://www.mypronouns.org/what-and-why>)
Working Lands Engagement Manager

---------- Forwarded message ---------
From: Amy Delahanty
Date: Mon, Jun 28, 2021 at 1:30 PM
Subject: Updated invitation: ODF CCCP Stakeholder Assessment Session @ Tue Jun 29, 2021 12pm - 2:30pm (PDT) (Jasmine Zimmer-Stucky)

Greetings,
As follow up to Danny Norlander's email to you, Oregon Consensus has recently been engaged by the Oregon Department of Forestry to coordinate and facilitate a series of stakeholder assessment sessions that will help inform the agency's draft Climate Change and Carbon Plan.

These sessions are an opportunity to engage key stakeholders on a series of substantive topic areas related to the draft plan, and will last approximately 2.5 hours. To find the best day/time for the majority of participants, we ask that you please respond to the following When is Good poll by Wednesday, June 9th. The Agency kindly requests that only one member from each organization attend the assessment sessions. There are also opportunities to weigh in through written comments on the draft plan (please visit here) <https://www.google.com/url?q=https%3A%2F%2Fwww.oregon.gov%2Fodf%2FForestBenefits%2FPages%2FClimate-Change.aspx&sa=D&ust=1625344221646000&usg=AOvVaw21Icc_kX8nuOu18PSwzK6L> , and eventually there will be a public meeting of the Board of Forestry in the Fall.

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https://whenisgood.net/drpie78
<https://www.google.com/url?q=https%3A%2F%2Fwhenisgood.net%2Fdrpie78&sa=D&ust=1625344221647000&usg=AOvVaw3vmJVyGD6kibKhHAWgy34M>
Following feedback on the poll, we will be sending out a calendar invite with Zoom information and a proposed agenda. Thank you and please reach out to Danny Norlander (Danny.NORLANDER@oregon.gov <mailto:Danny.NORLANDER@oregon.gov>) should you have any additional questions.
Sincerely,
Amy

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ODF Draft Climate Change and Carbon Plan

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Sent: Tuesday, June 29, 2021 4:36 PM
Subject:Comments for the draft Climate Change and Carbon Plan
Name mel scott
Comment/question
What is my biggest help with heat the heat dome experience has been trees. Where they aren't has been brutal. I heat up very fast and luckily trees have saved my life. I ask that we do our best to preserve the trees because I know they save many lives. They save water, give us cooler areas, save water an prevent its polution,conseve energy,prevent soil erosion, sheild us from ultra violet rays, provide oxygen, reduce fear, and can make us well. and of course is one of the biggest tools to fight climate change. We cannot set a later date to save an add more trees. Yes, there are wildfires. But trees that are in good health should not be pulled. We need the right approach which yes, gets rid of the fragile but protects those that are strong. Save the healthy vegetation. Thank you. Best! Mel

Public Comment
ODF Draft Climate Change and Carbon Plan

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Sent: Tuesday, June 29, 2021 4:29 PM
Subject:Comments for the draft Climate Change and Carbon Plan
Name Mary Jo Mann
Comment/question
I'm encouraged by your presentation and would like to see the following addressed in your climate action plan: • It is extremely critical to include protection of watersheds that are adversely impacted by forestry practices which will help protect water sources used by citizens. Current forestry also impacts water and habitat used by fish which must also be protected. • Protecting mature and old growth forests to increase the storage of carbon and incentivize conservation of mature and old growth forests on private lands. • Lengthen logging rotations. • Move away from the "tree farm" mentality which destroys healthy eco-systems. • Be forward-thinking and use the best science available to guide forestry. Thank you for your work on this extremely critical issue.

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From: Josie Koehne
Sent: Tuesday, June 29, 2021 2:35 PM
Subject:Under BARRIERS to Implementation
Attachments: Measure 49 Law 2007.docx; Measure 49 Law 2007 rev.docx
Measure 49
There is an exception in the bill that can be used:
Language in M49 that could be used from definitions:
"Protection of public health and safety" means a law, rule, ordinance, order, policy, permit or other governmental authorization that restricts a use of property in order to reduce the risk or consequence of fire, earthquake, landslide, flood, storm, pollution, disease, crime or other natural or human disaster or threat to persons or property including, but not limited to, building and fire codes, health and sanitation regulations, solid or hazardous waste regulations and pollution control regulations.

And the related section (3) to protect ODF and Board from lawsuits potentially:

(3) Subsection (1) of this section shall not apply to land use regulations that were enacted prior to the claimant's acquisition date or to land use regulations:

[(A)] (a) Restricting or prohibiting activities commonly and historically recognized as public nuisances under common law[. This subsection shall be construed narrowly in favor of a finding of compensation under this section];

[(B)] (b) Restricting or prohibiting activities for the protection of public health and safety[, such as fire and building codes, health and sanitation regulations, solid or hazardous waste regulations, and pollution control regulations];

and from the revised doc:

while retaining Oregon's protections for farm and forest uses and the state's water resources

Public Comment
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From: Joseph Youren
Sent: Tuesday, June 29, 2021 2:23 PM
Subject:CCCP follow-up
Danny,
Thanks for scheduling the CCCP input meeting around England's game this morning. Really appreciate the extra effort on your part.
Joseph Youren
Audubon Society of Lincoln City
Salem Audubon Society.

Public Comment
ODF Draft Climate Change and Carbon Plan

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Sent: Tuesday, June 29, 2021 2:17 PM
Subject:Comments for the draft Climate Change and Carbon Plan
Name Wendy R Gerlach
Comment/question
Comments on Oregon Department of Forestry Draft Climate Change and Carbon Plan (5/21/21 draft) From: Wendy R. Gerlach [redacted] To: Oregon Department of Forestry Date: June 29, 2021 I am pleased to see that the Department has targeted appropriate ways to utilize the potential of Oregon's forests to protect our drinking water, to store water and snow, to sequester carbon, and to serve as species habitat. The report identifies the correct goals. However, it describes an approach, rather than setting out a concrete action plan to achieve results within the needed timeframe. The report uses words such as research, investigate, and so forth. The final report should move beyond that to provide specific actions to be taken and quantitative milestones to be achieved by specific dates. In implementing its goals, and in developing its specific action plan, the Department should use the wealth of existing information that can direct its most effective path forward. The topics noted as subjects of inquiry, such as benefits of longer harvest rotations, location of older and carbon-rich forests, key habitat areas, benefits of certification regimes (such as FSC), location of heat-impaired waterways, etc., have been widely studied, with conclusions reached and documented already. While referring to various studies and resources, the report suggests the Department will be investigating these topics and studying how to respond. I suggest that, instead, the Department should use existing resources as its starting point, rather than the Department's reviewing these to develop its own strategy. There is not a shortage of resources for ODF to use in directing actual action on the stated goals in their report. There is also a wealth of skill and expertise in Department staff, and the past session has budgeted the Department to function at a high level. I am confident that the Department will rise to the challenge of honing this draft to provide specific actions that will achieve the goals listed in this draft report in a timely and efficient way. In closing, I'll note that in my experience working for a large pharmaceutical company I saw that, in working to solve complex problems with broad, urgently needed impact, the company leveraged the knowledge of a wide community of external scientists and others working on the same problems. This approach involves incorporating mature technologies and systems that can jump-start concrete, on-the-ground solutions. I urge the Department to, similarly, leverage its internal capability by taking advantage of the contributions already made and being made in this field by others. The path forward should be one of collaboration that builds upon existing work outside the Department, in order to move swiftly forward to implement the goals listed in this report. Thank you for your work, and for your consideration of these comments, Wendy Gerlach

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ODF Draft Climate Change and Carbon Plan

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Sent: Tuesday, June 29, 2021 12:50 PM
Subject:Comments for the draft Climate Change and Carbon Plan
Name Samantha Duncan
Comment/question
I would like to submit comments toward the Climate Change and Carbon plan. I recommend that Oregon become a leader in climate change mitigation and adaption and in promoting smart climate forestry. The plan must recognize climate change as a serious threat and shape forest policies through a social justice and equity lens, acknowledging that climate change affects lower-income and historically oppressed communities more severely. We must recognize that our west side forests in Oregon have the potential for some of the highest rates of carbon sequestration and storage in the world. The plan must identify areas with high carbon storage potential, including mature and old growth forest and stands that have never been logged, and protect those as climate reserves as well as incentivizing the conservation of old growth and mature forests on private land. The plan should lengthen logging rotations--allow trees to grow for longer periods of time to improve carbon sequestration and increase yield and quality more sustainably. The plan should increase retention of standing trees, especially bigger and older trees after logging to improve forest regrowth, making it more resilient to natural disturbance (landslides, erosion, etc), increase availability of native seed stock for future restoration efforts, and provide for more, higher quality habitat for native species. The plan must focus resources on community preparedness for wildfires, recognize that logging and slash burning release significant amounts of greenhouse gas. Biomass should not be considered a carbon neutral energy source. Finally, carbon storage in harvested wood products should not be overestimated.

Public Comment
ODF Draft Climate Change and Carbon Plan

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Sent: Monday, June 28, 2021 1:02 PM
Subject:Comments for the draft Climate Change and Carbon Plan
Name Pat Kaczmarek
Comment/question
Dear Director Daugherty, Please include my comment on ODF's Climate Change and Carbon Plan in your review. Climate change is having enormous impact on the earths climate that supports human life as well as the plants, animals and other wildlife that have been produced through hundreds of thousands of years of evolution. To avoid the catastrophy of climate breakdown due to the increasing damage to the natural world over the past 50 years, Oregon must do its part to reduce carbon emissions. This cannot continue under our watch! We are lucky to live in a carbon-rich and biodiverse landscape here in Oregon. We need for ODF to take bold action that prioritizes natural climate solutions as a primary strategy to mitigate the climate crisis. The proposed plan positions Oregon as a leader in climate change mitigation and adaptation and in promoting climate smart forestry, and recognizes climate change as a serious threat. Scientists are finding that climate changes are occuring at a more rapid pace than anticipated even 10 years ago. We must act now, using the best science available, to ensure that Oregon's west side forests maintain their high rates of carbon sequestration and storage. The Plan needs to identify areas with high carbon storage potential, including mature and old growth forests, and stands that have never been logged. Native stands of large trees on public lands should be protected as climate reserves. The Plan needs to incentivize conservation of mature and old growth forests on private lands. Logging rotations need to be extended to optimize carbon storage. This will also improve timber yield and timber quality. Tree retention on the land during harvest must be increased exponentially. Clear cutting can no longer be considered a standard practice. Selective cutting promotes diversity of species. Retention of standing trees (especially bigger and older trees) after logging will keep more carbon on site, help to make regrowing forests more resilient to natural disturbance, increase availability of native seed stock for future restoration efforts, and provide for higher-quality habitat for native species. While logging is a far more significant source of greenhouse gas emissions than wildfire, particularly on the west-side of the Cascades, citizens need to continue to become educated on how to minimize wildfire risk. Biomass is NOT carbon neutral – it releases significant amounts of CO2 when burned to produce energy, and harvested wood for construction or other long term uses retains only between 35% and 50% of the carbon stored in the live tree. Plus harvesting eliminates the future capablity of the tree to continue building carbon reserves. Please update the plan to include selective cutting, longer tree retention periods and the prioritization of harvests for the most impactful uses of this precious resource. Thank you, Pat Kaczmarek [redacted]

Public Comment
ODF Draft Climate Change and Carbon Plan

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From: Alan Journet
Sent: Monday, June 28, 2021 11:51 PM
Subject:Comments on the ODF Draft Climate Change and Carbon Plan
Attachments: SOCAN Comments on ODF CCCP c.pdf
Danny:
I have just submitted comment via the ODF page:
https://www.oregon.gov/odf/forestbenefits/pages/comment.aspx.
Unfortunately, that page does not allow submission of a file. Since the comments that I developed include text boxes and shapes (which I inserted to replace an image), and these were omitted in gthe submissions, I am sending the complete file directly to you in the hope that you can add it to the package of comments. In response to the page request for suggestions, I noted that including the option to submit a file would have made the page much more user friendly, but am not sure if this ever was submitted. Having a file submission option is the way these kinds of submission pages are usually set up, so the absence of that option on the ODF page makes this seem a little unfriendly and amateurish.
Thanks,
Alan Journet
Co-facilitator
Southern Oregon Climate Action Now (SOCAN)

Public Comment
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Sent: Monday, June 28, 2021 11:38 PM
Subject:Comments for the draft Climate Change and Carbon Plan
Name Alan Journet
Comment/question
Alan R.P. Journet Ph.D. Co-facilitator Southern Oregon Climate Action Now [redacted] June 28th 2021 SOCAN Comments on ODF Climate Change and Carbon Plan Colleagues: I write as cofacilitator of Southern Oregon Climate Action Now on behalf of over 1500 Southern Oregonians who are SOCAN and who are concerned about the climate crisis and are committed to promoting solutions to address the cause of increasing atmospheric greenhouse gas concentrations. Our Mission is to promote awareness and understanding of the science of climate change and its consequences and motivate individual and collective action to solve the underlying cause. In the context of these comments, as concern relates to reducing the emissions that result from logging operations, and promoting the sequestration (capture and storage) of carbon from the atmosphere. I start by complimenting ODF for developing this Climate Change and Carbon Plan despite the turmoil that has befallen agency leadership during this period. While I judge much of the language of the plan to offer a reasonable and rational roadmap, I also offer some comments of concern along with suggestions. First, I offer congratulations and encouragement on the Purpose and Vision statements but with some reservations about the term 'climate smart,' an issue to be discussed later. While I appreciate the inclusion in the Vision statement goals other than forest products, I remain concerned that overall, the document seems to retain the focus on Oregon's forests as a source of timber rather than fully recognizing that other aspects of the multiple use function of our forests, are also important, notably: wildlife, water quality and storage, recreation (including tourism), and spiritual refreshment. Also, although 'climate health' is included, given the nature of this document, it would seem entirely reasonable for ODF to include specific mention of carbon sequestration in the list of forest attributes that ODF wishes to promote. I appreciate the acknowledgement in bullet point 3 regarding the opportunities for sequestration, though, strangely, carbon is not identified as the target for this sequestration. It is a little disturbing, however, to see the argument that harvested wood products are identified as providing meaningful sequestration of carbon since this claim has been challenged repeatedly by research pointing out the small percentage of carbon in standing trees that ends up in marketed timber products and the vast amount that is emitted during the logging, and processing of these products, along with the combustion of the slash piles (Smith et al 2006, Gower et al 2006, Ingerson 2007, Hudiberg et al. 2019, Law et al. 2018). Under 'Definitions,' Greenhouse Gas I note, maybe somewhat pedantically, that the conventional plural of the noun 'gas' is 'gases.' The word 'gasses' is conventionally used as the present tense of the verb 'to gas.'(https://grammarist.com/usage/gases-gasses/). Comments on Climate Smart from Charisse Sydoriak are presented below, but I draw attention to the definition here as being vague and incomplete. I suggest that Climate Smart management is not merely an extension of sustainable management. It is, rather, a novel way of approaching management that recognizes that we have an unknown future climate and need to adjust management away from the principle of trying to restore forests that existed in some historic time where a climate existed that will not return. Rather, we need to embrace experimentation, monitoring, and adjust management to achieve goals. Indeed, in a changing climate the goals themselves should be constantly subjected to re-

evaluation. Throughout this set of definitions, especially that for 'Carbon Finance,' I note that 'sequestration' seems to be used as a synonym for 'capture.' In fact, although this usage is common, 'sequestration' actually means capture and storage (https://www.usgs.gov/faqs/what-carbon-sequestration?qt-news_science_products=0#qt-news_science_products) so in this definition: "A market based mechanism to pay for sequestration and storage of carbon dioxide" the addition 'and storage' is redundant. Admittedly, however, for those who misunderstand the term 'sequester,' this redundancy may be helpful and needed. The last word 'is' on p 3 should be removed. The Problem statement on p 5 starts with an accurate statement "Climate change is threatening Oregon's forest and forest products industry…" However, the inclusion of 'and forest products industry' is unnecessary and again rather seriously reveals an underlying principle that the forest products industry is the main reason for our concern about forests when it is but one of many of the values of our forests. I suggest that simply deleting 'and forest products industry' would not compromise the point and still be accurate. While there is no doubt that wildfire risk is a critical example of the impact of climate change, it is probably also worth noting that there is evidence that some species are responding negatively to the changing climate itself (e.g. Douglas fir) either through the direct impact of changed conditions or an impact via the intermediary of pests, especially insects (e.g. Davis et al 2019, Halofsky et al. 2019, Halofsky et al. 2020, Millar and Stephenson 2015). Although the next paragraph includes some of these issues, I have frequently had conversations with individuals who ascribe the climate impact on our forests as being a fire-mediated impact without acknowledgment of the direct impact of climate on our forest species, each of which has a range of conditions to which it is physiologically adapted. I particularly appreciate the following sentences on p 6: "A business-as-usual approach will not accomplish the needed adaptations, mitigations, and transformations needed. Increasing impacts on natural systems will force the human element to adapt in ways that are not fully understood at this time." I note, however, the second 'needed' in the first sentence is duplicative. p 8: What Is Climate-Smart Forestry? This section leaves the reader with very little idea about what Climate Smart management is and how it is different from current conventional management. Indeed, it seems to offer rather bland statements about 'some people think this,' and 'some people think that,' but doesn't really identify the experimental essence of the approach. To assist a revision of this section to include the essence of the approach, the following discussion by Charisse Sydoriak should be helpful: ---------- 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 rapid climate change requires a fundamental shift in the practice of natural resource management and conservation. • 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" means 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 desired outcomes, with uncertainty clearly in mind. • Climate-Smart Conservation: Putting Adaptation Principles into Practice offers guidance for designing and carrying out natural resource

conservation 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. The Climate-Smart Adaptation Process Cycle There are many 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 (Stein et al. 2014). Note that there are opportunities throughout the process to interact with stakeholders. At a minimum, stakeholder engagement is essential in steps 1, 3, and 4. The first step in the process 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. 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 persist given increasing temperatures and changes in precipitation patterns in the next decade, mid-century, or longer. This step requires expert knowledge, geospatial tools, and review of the scientific literature. Step 3 requires delving deeply into the information 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. When this occurs, the goals and objectives should be intentionally revised. In step 4, a suite of adaptation options is identified based on the vulnerability assessments, management feasibility, and costs. This step entails looking at plausible future conditions (scenario planning) to find places where valued resources could persist with or without management intervention; or electing to invest, despite feasibility or cost, to protect values-at-risk

where they are now. It is wise to pick multiple options because of climate change uncertainty and flawed assumptions. Take care not to invest in one strategy or limit tactics – instead "put your eggs in multiple baskets." An action plan is the product of 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. The plan also must identify assumptions made and provide the means for evaluating success based on climate sensitive metrics. 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 rather than defensive 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. p 10: Climate-Informed Silviculture Goal: Establish a just and equitable transition to climate-informed silviculture and climate-smart forestry that optimizes climate mitigation and adaptation, while maintaining a sustainable flow of wood products to ensure long-term resource benefits and viability of the forest products industry and flow of long-lived forest products. This language is considerably troubling in that it underlines the concern expressed earlier that while the CCCP offers encouraging thoughts regarding forest management reflection and adjustment, the essential view of ODF seems to remain that the raison d'être for our forests and ODF is purely to serve timber harvest rather than the full array of other forest values. p. 11: Fire Management, Response and Fire / Smoke Adapted Communities Goal: Modernize Oregon's complete and coordinated wildfire protection system to respond to the increased severity of wildfire. Promote fire and smoke adapted communities in the wildland-urban interface, to mitigate the impacts of climate-induced increases in wildfire severity. There is no doubt that the fire risk faced by Oregonians is a major problem for a multiplicity of reasons many of which are articulated in this section. However, somewhat troubling is the absence of an acknowledgment that Oregon's forests exist in a Mediterranean climate and are thus fire prone and fire adapted. The result is that they are also fire dependent. Indeed, as this reality implies, fire is not only inevitable, it is also essential to maintain forest health. One specific reason for incorporating the Climate Smart management principles articulated above is that we need greater reflection and flexibility in management given the implications of climate change in combination with increased fire risk for forest composition and function. Continuing the pretense that 'fire is bad and must be suppressed' as this document implies without explicitly so stating, is inconsistent with the ecological reality of our forests. p. 12: State Forests Management Goal: Lead by example and demonstrate climate-informed forest management on State Forests to achieve Greatest Permanent Value. It is certainly encouraging to see ODF acknowledging the carbon sequestration potential of our coastal forests and proposing to use state forests as models for management in the era of climate change. We know that carbon sequestration should be a high priority in forest management, particularly management that includes climate smart principles - hopefully as articulated above rather than as articulated by those who think current forestry practices are climate smart. It is less encouraging, however, to see the focus remain on timber harvest as the mechanism for promoting sequestration rather than consideration given to maintaining a healthy growing forest, especially comprising mature and old growth trees. It is also disturbing to see again the specter of harvested wood products offered as a reasonable means of sequestering carbon. It has long been demonstrated that the proportion of carbon in the original tree that is retained in timber products is relatively minor. Indeed, many years ago, studies revealed that

only about 15% of the carbon in standing trees ends up in the processed timber (Smith et al. 2006, Gower et al. 2006, Ingerson 2007). Meanwhile a more recent study reported that some 81% of the carbon harvested from Oregon trees since 1900 has returned to the atmosphere or been deposited in landfills, from where it will ultimately return to the atmosphere (Hudiberg et al. 2019) leaving just 19% stored in the harvested timber product. In addition, of course, logging both removes the stored carbon in harvested trees and precludes those trees from sequestering further carbon, thus compromising future reductions in atmospheric CO2. p 13: All-Lands Forest Restoration Goal: Accelerate the pace, scale, and quality of forest restoration to increase the resilience to increased wildfire severity and incidence. Support implementation of the recommendations of the Governor's Council on Wildfire Response. It is laudable that ODF is acknowledging the increasing risk of wildfire that climate change is presenting. It is unfortunate, however, that in approaching the issue, ODF clings to the outdated notion that restoration of forests, presumably to some historic condition, is the appropriate strategy. While the statement: "It is important that work to reduce wildland fire risk take into account the historical, current, and future predicted local fire behavior and frequency….." is laudable especially the notion of paying attention to historical fire behavior, presumably including its benefits, embedding this concept in 'Restoration' cloth suggests that ODF has yet fully to appreciate exactly what climate smart forestry is and why it is necessary. As Charisse Sydoriak stated above: "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." Efforts to impose management that seeks to retore forests to historic conditions rather than acknowledge that changing climate will preclude achievement of such a goal is doomed. p 15: Urban and Community Forests GOAL: Increase the extent and resilience of urban and community forests to maximize the climate mitigation and health benefits of urban forests canopy. It is encouraging to see ODF accord attention to urban forestry and the benefits trees can offer urban communities. p. 16. Reforestation and Afforestation Goal: Facilitate and encourage the reforestation of areas burned by wildfire and afforestation of low-productivity lands that are understocked or not in forest use. Given the valuable role trees can play in sequestering carbon from the atmosphere, it seems highly reasonable for ODF to consider promoting both reforestation and afforestation. It is important, however, that reforestation not become an excuse for timber harvest since removal of growing trees compromises their sequestered carbon and the potential of those trees to sequester further carbon. It is also critical that climate smart principles be applied to this process since many ecologically and commercially important tree species will be rendered less viable this century through much of their range by climate change (http://charcoal.cnre.vt.edu/climate/species/). A diversity of species should be included in such plans rather than a monoculture which produces stands of trees that bear the same relation to a forest as a corn field bears to a prairie. It should be recognized, also, that - unlike mature forests - plantations are well understood to be severe wildfire hazards (e.g. Zald & Dunn 2018). It's important also to appreciate that afforestation should be undertaken with the same cautions as above regarding diversity, and the application of climate smart principles. In addition, afforestation should be carefully planned such that it doesn't undermine productive agricultural land. p. 17. Maintain and Conserve Forests Goal: Support a strong, but flexible, Land Use Planning System as a cornerstone of maintaining Oregon's forests on private lands. While it's encouraging to note that Oregon has lost relatively little forestland, it's important to account for the fact that the presence of trees does not mean a forest exists. Massive expanses of plantation monoculture, for example, do not comprise forestland. While conservation of forest resources is valuable, again it's important to appreciate that restoration of degraded forestland will likely be unsuccessful unless real climate smart principles are

applied and it is understood that species occupying a region historically may no longer be adapted to that location in the future, hence the need for experimentation. Indeed, one consequence of the shifting climatic conditions may be that conifer or mixed conifer forests may be replaced by climate suitable for oak woodland. p. 17: Research and Monitoring Goal: Maintain a research and monitoring program to track the status and trends of ecological, economic, and social indicators and the effects of climate change and to track progress related to this plan. It is very encouraging to see this included in the plan since, as the climate smart chart above indicates, monitoring the results of the experimental application of management tactics is critical to determining what is successful and what needs adjustment. In this context, to the list of bullet points should be added: • Which management tactics are apparently successful in terms of promoting management goals and which are not? • Given the outcomes of the various management tactics, should our management goals be revisited? This statement is particularly applauded: "Understanding the impacts of climate change on the benefits we value and expect from Oregon's forests requires a robust, long-term research and monitoring system that provides reliable information reported on a regular basis." p. 20: Accountability Measures: "Agency Leadership: Agency leadership will prioritize climate change in their planning to align with Executive Order 20-04." It is very encouraging to see this sentence included though I have to note that the remainder of the text of the plan suggests that the priority will remain providing logs for the timber industry. It is critical that the Climate Change and Carbon Plan reflect the sentiments contained within this statement: i.e. that carbon sequestration will be prioritized. It is critical that ODF and the Board of Forestry appreciate that this statement constitutes a substantial change from historical ODF priorities of timber harvest as this is reiterated and implied even in this Climate Change and Carbon Plan. p. 20: The Agency Decisions and Board Accountability statements offer excellent thoughts about promoting the reduction in greenhouse gas emissions, but do not include a statement about promoting greenhouse gas (essentially carbon) sequestration. I suggest that a new item (new 2) should be inserted as follows: (2) Prioritize actions that promote carbon sequestration in our publicly owned and privately owned forests; Other numbers should be adjusted accordingly. Under Board Accountability, I presume "of this Executive Order" should be "of Executive Order 20-04." As above, I suggest adding GHG Gas (Carbon) Sequestration Goals Agencies shall exercise any and all authority and discretion vested in them by law to help facilitate Oregon's achievement carbon sequestration as set forth in paragraph 2 of Executive Order 20-04. Then, add to the end of Expedited Agency Processes "and carbon sequestration" p 22. Supporting Actions It is evident from the text of this Climate Change and Carbon Plan that understanding exactly what comprises climate smart forest management is somewhat lacking. This is evident from the overall tenor of the plan, which seems to suggest that ODF is already practicing climate smart forestry. Instead, ODF staff need to appreciate that climate smart forest management will require a substantial rethinking of how forestry is undertaken in Oregon. In addition to proposing programs to help ODF staff understand what climate smart management is, it would seem reasonable to organize workshops for public and private forest owners/managers to help them understand the basic principles of climate smart management and how these differ from 'business as usual.' This would reasonably include discussion of how the Forest Practices Act might be adjusted to reflect the imperatives of climate change and the principles of climate smart management. In order to incentivize climate smart forestry, as suggested on p. 23, it will be necessary for ODF and forest managers to understand what this means. p 23: Forest Management Plan and State Forests Carbon Storage: The bullet points on p 24 seem a reasonable starter set, but # 4 could be improved by adding the notion of climate appropriate species to 'site appropriate species,' since the latter concept is likely grounded in history rather than in recognition of

the uncertain climatic future. p. 26 Afforestation of Low Productivity Lands: The discussion of promoting afforestation through drought tolerant species and diversity seems entirely reasonable and consistent with climate smart management but please recognize the experimental nature of the process and the need for monitoring and re-evaluating. p 27 Forest Carbon Offsets: It will be entirely appropriate for ODF to develop a forest offset program. Presumably this would operate within the umbrella of the Community Climate Investment program being developed by DEQ within its Climate Protection Program. However, ODF should be aware that as those rules were developed and shared during the Rulemaking Advisory Committee meeting 6, DEQ's draft rules for these investments did not include projects that promote carbon sequestration, only greenhouse gas emissions reductions. Discussion during that meeting resulted in a seeming agreement to reinstate this component. However, it would behoove ODF to contact Colin McConnaha at DEQ to confirm that the carbon sequestration offset option has been included. It will be critical to ensure that the rules for such are carefully worded to guarantee that carbon sequestration projects are not a sham, investments are protected from wildfire, and projects do not result in social injustice. The language that I have suggested to DEQ regarding this concern follows: It is critical that such projects and those applying to invest in them, meet certain requirements: 1) To be eligible for these investments, polluting entities should not be permitted to apply for Community Climate Investment credits: a. unless they have already installed the best available technology (BAER) for reducing emissions or have solid plans for undertaking such installation, b. that 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. Meanwhile, acceptable sequestration projects must: a. be third-party certified as achieving carbon sequestration that is real, measurable, additional, long-lived, 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. b. not allow leakage of the sequestered carbon in other projects. For example, forest carbon sequestration projects cannot be compensated by activities elsewhere under the ownership of the project manager that result in an increase in emissions similar to or greater than the carbon sequestered. c. not generate conditions that compromise equity and social justice. p 28 Mid-term Timber Harvest Deferral: The suggestion of extending the harvest rotation seems entirely consistent with the goal of promoting carbon sequestration and is to be lauded. However, it is important to acknowledge the experimental nature of climate smart management and the need to monitor and evaluate outcomes to ensure that goals are being met. -p. 28 Monitoring: Past, Present, and Future Forest Carbon Research: Emphasis on the need for monitoring is excellent though I remain troubled by the recurring argument that the small percentage of carbon from standing trees that is retained in the timber products comprises a substantial contribution to the carbon balance and carbon sequestration goal. p. 30 Incorporation of Climate Change and Climate Change Impact in Agency Planning Processes: It is encouraging to see the plan urges the consideration of climate change and its impacts in Agency Planning. I offer this comment because my experience at reading agency reports (other than ODF) reveals an almost complete absence in Environmental Assessments of reflection on this critical issue. p. 30. Encourage Low Carbon Impact Materials in Oregon: There is no doubt that we should encourage low carbon impact materials at every opportunity. However, ODF needs to acknowledge the vast emissions that result from current logging industry activities. It is critical that ODF addresses this problem as we

move into the future in a climate smart world. p. 32 Future Work Needs As noted above, a critical need in both the short term and long term is to educate ODF personnel about the essence of climate smart forestry and how it differs from business as usual. p. 36. Considering the repeated reference to 'climate smart forestry,' I was particularly surprised not to see mention of the almost seminal discussion of this by Stein et al. 2014 which deserves mention both in the text and references: References Cited: Albrich K, Rammer, W 2020 Climate change causes critical transitions and irreversible alterations of mountain forests, Global Change Biology 26: 4013–4027.
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Alan R.P. Journet Ph.D.
Co-facilitator
Southern Oregon Climate Action Now
7113 Griffin Lane, Jacksonville
OR 97530-9342
alan@socan.eco
541-301-4107
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Colleagues:

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p 8: <u>What Is Climate-Smart Forestry?</u>

This section leaves the reader with very little idea about what Climate Smart management is and how it is different from current conventional management. Indeed, it seems to offer rather bland statements about 'some people think this,' and 'some people think that,' but doesn't really identify the experimental essence of the approach. To assist a revision of this section to include the essence of the approach, the following discussion by Charisse Sydoriak should be helpful:

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 rapid climate change requires a fundamental shift in the practice of natural resource management and conservation.

- 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" means 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 desired outcomes, with uncertainty clearly in mind.

- Climate-Smart Conservation: Putting Adaptation Principles into Practice offers guidance for designing and carrying out natural resource conservation activities in the face of a rapidly changing climate.

Key characteristics of the "Climate Smart" approach are:

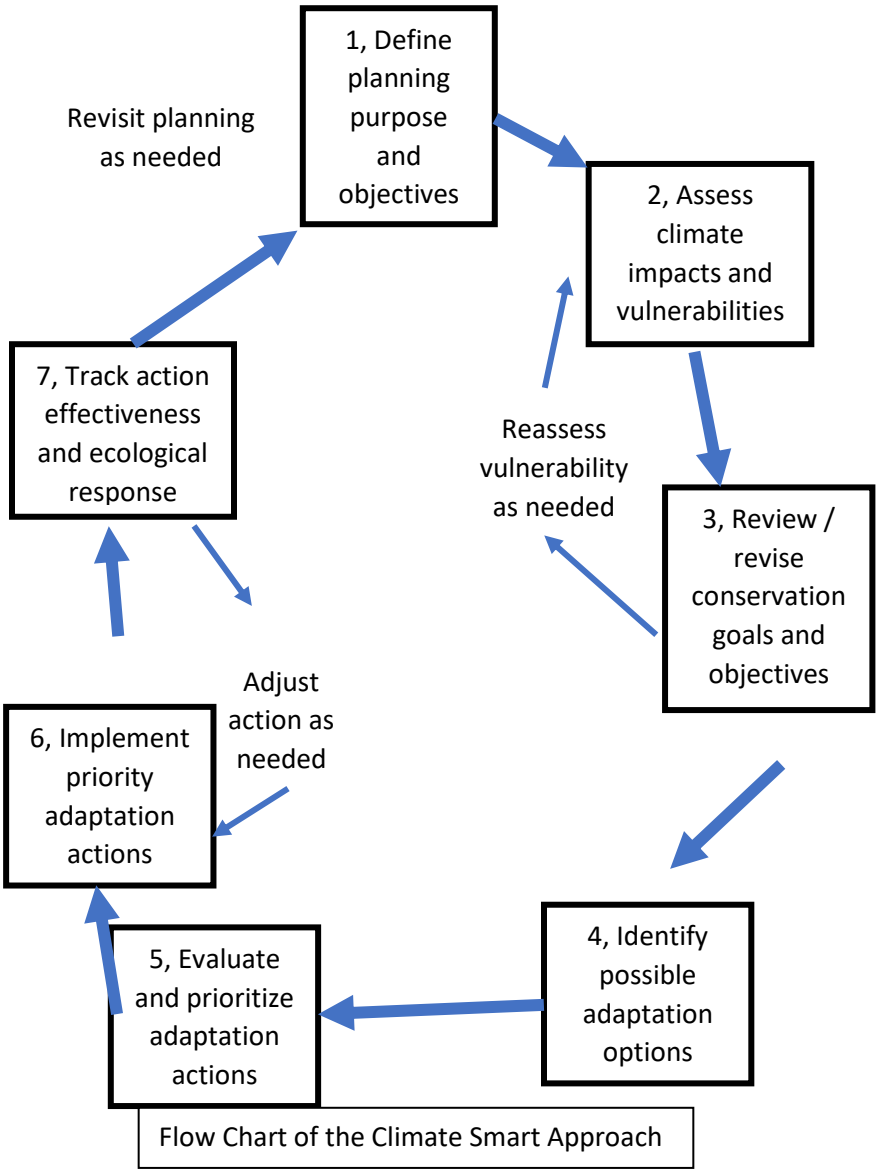
- Linking actions to climate impacts. Natural resources management strategies and actions are designed specifically to address the impact of climate change in concert with existing threats. Actions are supported by an explicit scientific rationale and understanding of potential climate vulnerabilities.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

The Climate-Smart Adaptation Process Cycle

There are many 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 (Stein *et al.* 2014). Note that there are opportunities throughout the process to interact with stakeholders. At a minimum, stakeholder engagement is essential in steps 1, 3, and 4.

The first step in the process 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.



Flow Chart of the Climate Smart Approach

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 persist given increasing temperatures and changes in precipitation patterns in the next decade, mid-century, or longer. This step requires expert knowledge, geospatial tools, and review of the scientific literature.

Step 3 requires delving deeply into the information 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. When this occurs, the goals and objectives should be intentionally revised.

In step 4, a suite of adaptation options is identified based on the vulnerability assessments, management feasibility, and costs. This step entails looking at plausible future conditions (scenario planning) to find places where valued resources could persist with or without management intervention; or electing to invest, despite feasibility or cost, to protect values-at-risk where they are now. It is wise to pick multiple options because of climate change uncertainty and flawed assumptions. Take care not to invest in one strategy or limit tactics – instead "put your eggs in multiple baskets."

An action plan is the product of 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. The plan also must identify assumptions made and provide the means for evaluating success based on climate sensitive metrics.

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 rather than defensive 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.

p 10: Climate-Informed Silviculture

Goal: Establish a just and equitable transition to climate-informed silviculture and climate-smart forestry that optimizes climate mitigation and adaptation, while maintaining a sustainable flow of wood products to ensure long-term resource benefits and viability of the forest products industry and flow of long-lived forest products.

This language is considerably troubling in that it underlines the concern expressed earlier that while the CCCP offers encouraging thoughts regarding forest management reflection and adjustment, the essential view of ODF seems to remain that the raison d'être for our forests and ODF is purely to serve timber harvest rather than the full array of other forest values.

p. 11: Fire Management, Response and Fire / Smoke Adapted Communities

Goal: Modernize Oregon's complete and coordinated wildfire protection system to respond to the increased severity of wildfire. Promote fire and smoke adapted communities in the wildland-urban interface, to mitigate the impacts of climate-induced increases in wildfire severity.

There is no doubt that the fire risk faced by Oregonians is a major problem for a multiplicity of reasons many of which are articulated in this section. However, somewhat troubling is the absence of an acknowledgment that Oregon's forests exist in a Mediterranean climate and are thus fire prone and fire adapted. The result is that they are also fire dependent. Indeed, as this reality implies, fire is not only inevitable, it is also essential to maintain forest health. One specific reason for incorporating the Climate Smart management principles articulated above is that we need greater reflection and flexibility in management given the implications of climate change in combination with increased fire risk for forest composition and function. Continuing the pretense that 'fire is bad and must be suppressed' as this document implies without explicitly so stating, is inconsistent with the ecological reality of our forests.

p. 12: State Forests Management

Goal: Lead by example and demonstrate climate-informed forest management on State Forests to achieve Greatest Permanent Value.

It is certainly encouraging to see ODF acknowledging the carbon sequestration potential of our coastal forests and proposing to use state forests as models for management in the era of climate change. We know that carbon sequestration should be a high priority in forest management, particularly management that includes climate smart principles - hopefully as articulated above rather than as articulated by those who think current forestry practices are climate smart. It is less encouraging, however, to see the focus remain on timber harvest as the mechanism for promoting sequestration rather than consideration given to maintaining a healthy growing forest, especially comprising mature and old growth trees. It is also disturbing

to see again the specter of harvested wood products offered as a reasonable means of sequestering carbon. It has long been demonstrated that the proportion of carbon in the original tree that is retained in timber products is relatively minor. Indeed, many years ago, studies revealed that only about 15% of the carbon in standing trees ends up in the processed timber (Smith *et al.* 2006, Gower *et al.* 2006, Ingerson 2007). Meanwhile a more recent study reported that some 81% of the carbon harvested from Oregon trees since 1900 has returned to the atmosphere or been deposited in landfills, from where it will ultimately return to the atmosphere (Hudiberg *et al.* 2019) leaving just 19% stored in the harvested timber product. In addition, of course, logging both removes the stored carbon in harvested trees and precludes those trees from sequestering further carbon, thus compromising future reductions in atmospheric CO_2.

p 13: All-Lands Forest Restoration

Goal: Accelerate the pace, scale, and quality of forest restoration to increase the resilience to increased wildfire severity and incidence. Support implementation of the recommendations of the Governor's Council on Wildfire Response.

It is laudable that ODF is acknowledging the increasing risk of wildfire that climate change is presenting. It is unfortunate, however, that in approaching the issue, ODF clings to the outdated notion that restoration of forests, presumably to some historic condition, is the appropriate strategy. While the statement: "It is important that work to reduce wildland fire risk take into account the historical, current, and future predicted local fire behavior and frequency….." is laudable especially the notion of paying attention to historical fire behavior, presumably including its benefits, embedding this concept in 'Restoration' cloth suggests that ODF has yet fully to appreciate exactly what climate smart forestry is and why it is necessary. As Charisse Sydoriak stated above: "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." Efforts to impose management that seeks to retore forests to historic conditions rather than acknowledge that changing climate will preclude achievement of such a goal is doomed.

p 15: Urban and Community Forests

GOAL: Increase the extent and resilience of urban and community forests to maximize the climate mitigation and health benefits of urban forests canopy.

It is encouraging to see ODF accord attention to urban forestry and the benefits trees can offer urban communities.

p. 16. Reforestation and Afforestation

Goal: Facilitate and encourage the reforestation of areas burned by wildfire and afforestation of low-productivity lands that are understocked or not in forest use.

Given the valuable role trees can play in sequestering carbon from the atmosphere, it seems highly reasonable for ODF to consider promoting both reforestation and afforestation. It is important, however, that reforestation not become an excuse for timber harvest since removal of growing trees compromises their sequestered carbon and the potential of those trees to sequester further carbon. It is also critical that climate smart principles be applied to this process since many ecologically and commercially important tree species will be rendered less viable this century through much of their range by climate change (http://charcoal.cnre.vt.edu/climate/species/). A diversity of species should be included in such plans rather than a monoculture which produces stands of trees that bear the same relation to a forest as a corn field bears to a prairie. It should be recognized, also, that - unlike mature forests - plantations are well understood to be severe wildfire hazards (e.g. Zald & Dunn 2018). It's important also to appreciate that afforestation should be undertaken with the same cautions as above regarding diversity, and the application of climate smart principles. In addition, afforestation should be carefully planned such that it doesn't undermine productive agricultural land.

p. 17. Maintain and Conserve Forests

Goal: Support a strong, but flexible, Land Use Planning System as a cornerstone of maintaining Oregon's forests on private lands.

While it's encouraging to note that Oregon has lost relatively little forestland, it's important to account for the fact that the presence of trees does not mean a forest exists. Massive expanses of plantation monoculture, for example, do not comprise forestland.

While conservation of forest resources is valuable, again it's important to appreciate that restoration of degraded forestland will likely be unsuccessful unless real climate smart principles are applied **and** it is understood that species occupying a region historically may no longer be adapted to that location in the future, hence the need for experimentation.

Indeed, one consequence of the shifting climatic conditions may be that conifer or mixed conifer forests may be replaced by climate suitable for oak woodland.

p. 17: Research and Monitoring

Goal: Maintain a research and monitoring program to track the status and trends of ecological, economic, and social indicators and the effects of climate change and to track progress related to this plan.

It is very encouraging to see this included in the plan since, as the climate smart chart above indicates, monitoring the results of the experimental application of management tactics is critical to determining what is successful and what needs adjustment. In this context, to the list of bullet points should be added:

- Which management tactics are apparently successful in terms of promoting management goals and which are not?
- Given the outcomes of the various management tactics, should our management goals be revisited?

This statement is particularly applauded: "Understanding the impacts of climate change on the benefits we value and expect from Oregon's forests requires a robust, long-term research and monitoring system that provides reliable information reported on a regular basis."

p. 20: Accountability Measures:

"**Agency Leadership:** Agency leadership will prioritize climate change in their planning to align with Executive Order 20-04." It is very encouraging to see this sentence included though I have to note that the remainder of the text of the plan suggests that the priority will remain providing logs for the timber industry. It is critical that the Climate Change and Carbon Plan reflect the sentiments contained within this statement: i.e. that carbon sequestration will be prioritized. It is critical that ODF and the Board of Forestry appreciate that this statement constitutes a substantial change from historical ODF priorities of timber harvest as this is reiterated and implied even in this Climate Change and Carbon Plan.

p. 20: The Agency Decisions and Board Accountability statements offer excellent thoughts about promoting the reduction in greenhouse gas emissions, but do not include a statement about promoting greenhouse gas (essentially carbon) sequestration. I suggest that a new item (new 2) should be inserted as follows:

(2) Prioritize actions that promote carbon sequestration in our publicly owned and privately owned forests;
Other numbers should be adjusted accordingly.

Under Board Accountability, I presume "of this Executive Order" should be "of Executive Order 20-04."

As above, I suggest adding

<u>GHG Gas (Carbon) Sequestration Goals</u> Agencies shall exercise any and all authority and discretion vested in them by law to help facilitate Oregon's achievement carbon sequestration as set forth in paragraph 2 of Executive Order 20-04.

Then, add to the end of *Expedited Agency Processes*

"and carbon sequestration"

p 22. Supporting Actions

It is evident from the text of this Climate Change and Carbon Plan that understanding exactly what comprises climate smart forest management is somewhat lacking. This is evident from the overall tenor of the plan, which seems to suggest that ODF is already practicing climate smart forestry. Instead, ODF staff need to appreciate that climate smart forest management will require a substantial rethinking of how forestry is undertaken in Oregon.

In addition to proposing programs to help ODF staff understand what climate smart management is, it would seem reasonable to organize workshops for public and private forest owners/managers to help them understand the basic principles of climate smart management and how these differ from 'business as usual.' This would reasonably include discussion of how the Forest Practices Act might be adjusted to reflect the imperatives of climate change and the principles of climate smart management.

In order to incentivize climate smart forestry, as suggested on p. 23, it will be necessary for ODF and forest managers to understand what this means.

p 23: Forest Management Plan and State Forests Carbon Storage:

The bullet points on p 24 seem a reasonable starter set, but # 4 could be improved by adding the notion of climate appropriate species to 'site appropriate species,' since the latter concept is likely grounded in history rather than in recognition of the uncertain climatic future.

p. 26 Afforestation of Low Productivity Lands:

The discussion of promoting afforestation through drought tolerant species and diversity seems entirely reasonable and consistent with climate smart management but please recognize the experimental nature of the process and the need for monitoring and re-evaluating.

p 27 Forest Carbon Offsets:

It will be entirely appropriate for ODF to develop a forest offset program. Presumably this would operate within the umbrella of the Community Climate Investment program being developed by DEQ within its Climate Protection Program. However, ODF should be aware that as those rules were developed and shared during the Rulemaking Advisory Committee meeting 6, DEQ's draft rules for these investments did not include projects that promote carbon sequestration, only greenhouse gas emissions reductions. Discussion during that meeting resulted in a seeming agreement to reinstate this component. However, it would behoove ODF to contact Colin McConnaha at DEQ to confirm that the carbon sequestration offset option has been included. It will be critical to ensure that the rules for such are carefully worded to guarantee that carbon sequestration projects are not a sham, investments are protected from wildfire, and projects do not result in social injustice.

The language that I have suggested to DEQ regarding this concern follows:
It is critical that such projects and those applying to invest in them, meet certain requirements:

1) To be eligible for these investments, polluting entities should not be permitted to apply for Community Climate Investment credits:
    a. unless they have already installed the best available technology (BAER) for reducing emissions or have solid plans for undertaking such installation,
    b. that 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.

Meanwhile, acceptable sequestration projects must:

a. be third-party certified as achieving carbon sequestration that is real, measurable, additional, long-lived, 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.
b. not allow leakage of the sequestered carbon in other projects. For example, forest carbon sequestration projects cannot be compensated by activities elsewhere under the ownership of the project manager that result in an increase in emissions similar to or greater than the carbon sequestered.
c. not generate conditions that compromise equity and social justice.

p 28 <u>Mid-term Timber Harvest Deferral:</u>

The suggestion of extending the harvest rotation seems entirely consistent with the goal of promoting carbon sequestration and is to be lauded. However, it is important to acknowledge the experimental nature of climate smart management and the need to monitor and evaluate outcomes to ensure that goals are being met.

-p. 28 <u>Monitoring:</u>
Past, Present, and Future Forest Carbon Research:

Emphasis on the need for monitoring is excellent though I remain troubled by the recurring argument that the small percentage of carbon from standing trees that is retained in the timber products comprises a substantial contribution to the carbon balance and carbon sequestration goal.

p. 30 Incorporation of Climate Change and Climate Change Impact in Agency Planning Processes:

It is encouraging to see the plan urges the consideration of climate change and its impacts in Agency Planning. I offer this comment because my experience at reading agency reports (other than ODF) reveals an almost complete absence in Environmental Assessments of reflection on this critical issue.

p. 30. Encourage Low Carbon Impact Materials in Oregon:

There is no doubt that we should encourage low carbon impact materials at every opportunity. However, ODF needs to acknowledge the vast emissions that result from current logging industry activities. It is critical that ODF addresses this problem as we move into the future in a climate smart world.

p. 32 **Future Work Needs**

As noted above, a critical need in both the short term and long term is to educate ODF personnel about the essence of climate smart forestry and how it differs from business as usual.

p. 36. Considering the repeated reference to 'climate smart forestry,' I was particularly surprised not to see mention of the almost seminal discussion of this by Stein *et al*. 2014 which deserves mention both in the text and references:

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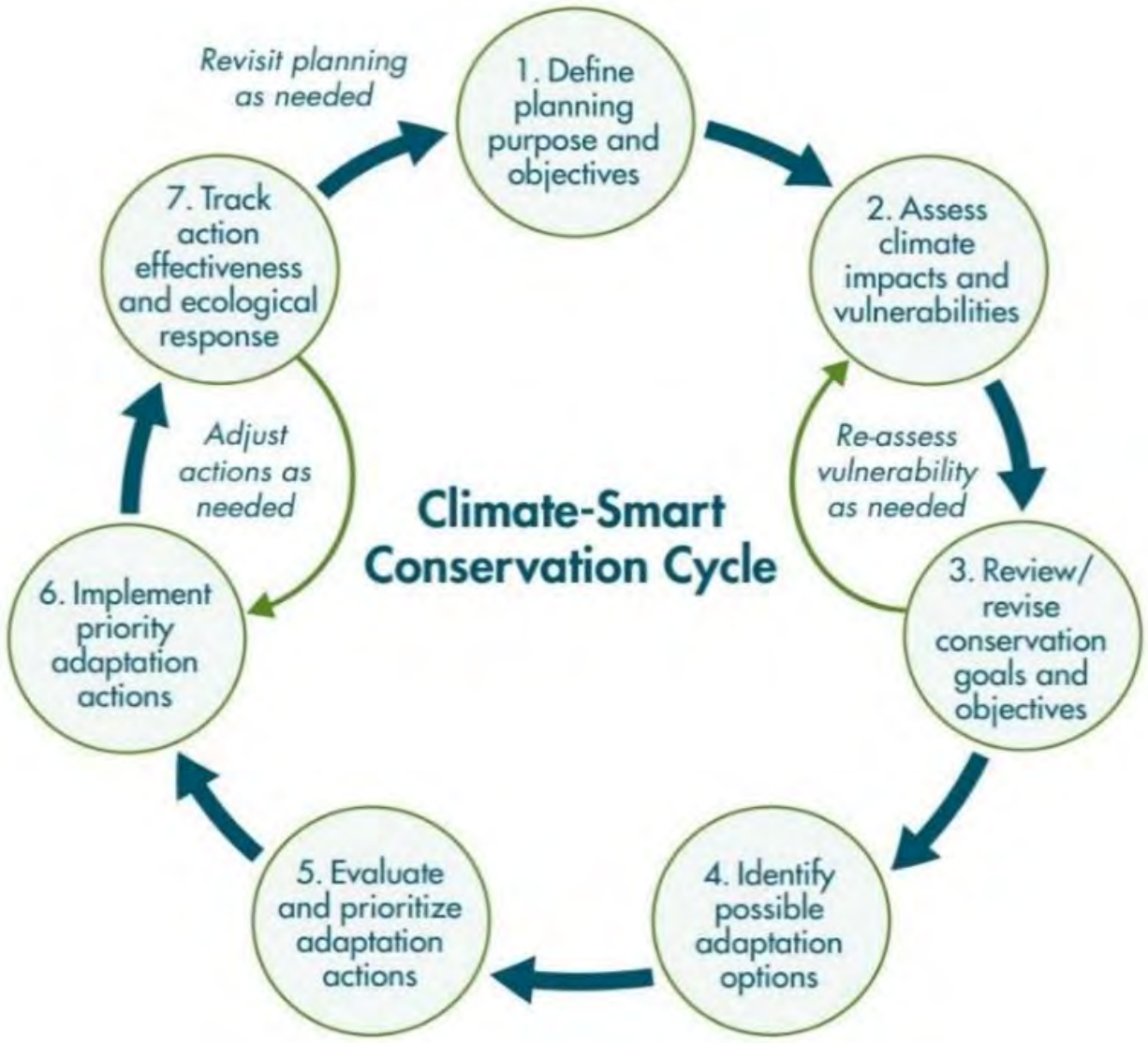
Respectfully submitted

Alan Journet Ph.D.

An improved graphic image of the climate smart flow chart (from Stein *et al.* 2014):



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Sent: Monday, June 28, 2021 10:33 PM
Subject:Comments for the draft Climate Change and Carbon Plan
Name Anne Reiling
Comment/question
Thank you for requesting my comment;, here are some considerations. Any organization developing a climate change and carbon plan should be well-read on the subject. Three well-researched books by Cynthia Barnett, (an American journalist that specializes on the environment and water issues), are recommended: Mirage, Rain and The Blue Revolution. All three books are available in the Corvallis Public library. The Blue Revolution is the most recent of the three and has a chapter about Perth, Australia, a city and region that has been dealing with severe drought for many decades, which may provide some excellent lessons for our region. I noticed that Portland, OR has a requirement that no trees older than a certain age may be cut in the city without reciving a permit. If we had a county ruling similar to this on both private & public land, we could be assured that old-growth trees would not be arbitrarily cut. Many people in Corvallis are still very upset about the woman that some decades ago donated land with old-growth trees near Salem to OSU in her will; specifying that the trees were to be preserved. However, the trees were cut by OSU and the land was sold. I think a formal apology from OSU is required about this issue, and ammends must be made. Due to decades of irresponsible foresty practiced by OSU (see Doug Pollock for details), it is important that the climate change plan should also be co-authored and reviewed by responsible members of the community that are not part of OSU, for credibility. Accouontability is also needed. Plans need to be reviwed every year to document activities and accomplishments. Also, pro-logging advertisements should be investigated for accuracy. For example, I'm not sure what organization was responsible for the huge bilboard placed on the side of a parked truck on Hwy 20 in Philomath recently that claimed "young trees absorb more carbon than old trees", in promotion of cutting mature trees. Recently I read that a huge number of trees have been cut by private owners in the Pacific NW during the last decade or so. Unfortunately, I do not remember the name of the document, but If private owners control 2/3's of timber in the Paicifc NW, it is important to provide incentives for people to preserve their mature trees. For example, over the last decade, people in my Oak Creek neighborhood, (who own approx. 5-10 acres each), badly misunderstood the intent of the "oak savannah" concept promoted by OSU and Greenbletlt for large land owners. These people are small land owners and cut all their fir trees and other trees that were not oak, creating not an oak savannah (which has an average of approx. 23% fir trees and many other trees, per the survey data) and instead created an oak monoculture that could easity be wiped out by a pathogen such as suden oak death which has already devastated oak tees in southern Oregon. If this becomes the case, there would be no trees left on these people's property. Somehow the propoganda for the Oak Savannah was misinterepreted. Furthermore, the oak savannah concept was based on a 2011 report entitled "Historical Vegetation of the Willamette Valley" which contained survey data taken in 1850, (before Europen man arrived), but neglects to acknowlege that the land was changed dramatically by native Americans who were living in this area, creating fires to thin the firs to provide more browse area for deer which wouold provide more venison. Instead, OSU and Greenbelt Land Trust could have promoted the climax forest concept, which is what nature would do if humans didn't interfere. These small land owners, when taken all together have devattated large swaths of mature forests.

Public Comment
ODF Draft Climate Change and Carbon Plan

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Sent: Monday, June 28, 2021 7:57 PM
Subject:Comments for the draft Climate Change and Carbon Plan
Name David M Johns
Comment/question
1. Your many goals are laudable--good to be science based, good to use forestry to address the issue of climate and good that you pledge to hear all voices--but is it just human voices? Humans are only one species. It's also unclear what "natural working lands" means. Wilderness works fine. When humans touch something they tend to screw it up. Glad to see you will lead with state forests--please actually do it. Given how much has been trashed in the coast range, cascades and elsewhere over the years, we should not be logging most areas for a very long time. 2. I own a small woodland; at the time I planted it 40 years ago the trees available from the state tended to be commercial trees and support monoculture. That needs to change significantly. 3. One of my small-brained neighbors clearcut his 10 acres because "the price of timber was up." No concern for carbon, no leaving a single tree for wildlife, oxygen, or the land. They cut in a wet fall when the soil was saturated and used heavy equipment creating huge gouges in the soil. So this person received decades of tax subsidies, then was able to cut it all down. As to Oregon's great land use laws, he subdivided his 10 acres into 3 parcels though it is zoned farm and forest. The logging operation also spilled gas, hydraulic fluid and similar. 4. The Forestry Department needs to get serious about not just climate by biological diversity. Rotations should be a minimum of 120 years; otherwise it's tree farming, not forestry--there's a big difference. There must be regulation to prohibit clear cutting, and to retain standing trees, both living and snags. People are mostly stupid and think short term--if you want "smart forestry" make it happen, or no subsidies. 5. Biomass is not carbon neutral. 6. Please make sure the "just and equitable transition" looks after all species, not just humans. Humans are much better off than bears, wolves and most other wild species. Let's have adequate stream buffers to actually protect fish

Public Comment
ODF Draft Climate Change and Carbon Plan

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Sent: Monday, June 28, 2021 5:57 PM
Subject:Comments for the draft Climate Change and Carbon Plan
Name Holly Blakeslee
Comment/question
Please continue to pass this necessary forward-thinking plan for Oregon's and our planet's future. Greater retention of standing trees (especially bigger and older trees) after logging will keep more carbon on site, help to make regrowing forests more resilient to natural disturbance, increase availability of native seed stock for future restoration efforts, and provide for more higher-quality habitat for native species. Please turn the Forestry Department away from for-profit short-sighted gain, and protect and conserve for our future, our children's futures, and the health of our state, nation and planet. Sincerely, Holly Blakeslee

Public Comment
ODF Draft Climate Change and Carbon Plan

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Sent: Monday, June 28, 2021 2:14 PM
Subject:Comments for the draft Climate Change and Carbon Plan
Name Darcy Miller
Comment/question
To Whom it May Concern: In light of all the recent climate changes and especially this recent unprecedented heat wave, I wanted to encourage bold action on the Climate Change and Carbon Plan. I think it's great that the CCCP will make Oregon a leader in climate change mitigation and in promoting climate smart forestry. Recognizing that our west side forests have the potential for some of the highest rates of carbon sequestration and storage in the world, and that we can utilize this is so important. In addition, this plan needs to The Plan needs to identify areas with high carbon storage potential, including mature and old growth forests, and stands that have never been logged. These could be very helpful if we are to utilize this land to store carbon. and identify areas with high carbon storage potential, including mature and old growth forests, and stands that have never been logged. These should be protected as climate reserves Also and very important - the plan should not define biomass as carbon neutral – it releases significant amounts of CO2 when burned to produce energy. Thank you for your time and energy. Darcy Miller

Public Comment
ODF Draft Climate Change and Carbon Plan

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Sent: Monday, June 28, 2021 2:01 PM
Subject:Comments for the draft Climate Change and Carbon Plan
Name Ruthann Duncan
Comment/question
I have read the draft and see it as a step in the right direction. My hope is that the implementation won't be encumbered and stifled by bureaucratic red tape and that meaningful progress will be evident in the short as well as long term. Thanks for the work. This issue is the sine qua non of challenges we face as a species on the planet.

Public Comment
ODF Draft Climate Change and Carbon Plan

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Sent: Monday, June 28, 2021 1:21 PM
Subject:Comments for the draft Climate Change and Carbon Plan
Name Dave Toler
Comment/question
Now that the science is clear on the impact Industrial logging has on GHG emissions in Oregon, it's past time for ODF to implement serious reform in how the state manages its own forests and take a proactive step in advocating for needed changes to the Oregon Forest Practices Act. The draft CCCP states that the Departments' goal is to " Make Oregon forestry a leader in climate change mitigation and adaptation." The draft acknowledges up front that "Oregon's forests, particularly those in the western Cascade Mountains and the Oregon Coast Range, have the potential for some of the highest rates of carbon sequestration Therefore, Oregon's forest productivity has potential for significant climate mitigation benefits." Yet, on can see little in this draft CCCP that emphasizes the need to ensure this incredible Climate Asset is enriched."Climate-Smart Forest Policies" appear to be the central focus of this draft, yet the term is never specifically defined. The plan never acknowledges the huge role logging in Oregon plays in Climate Destruction. For example no where is it recognized that several studies confirm that industrial logging in Oregon is the #1 sector source for GHG emissions in Oregon. While the science shows that over 50% of carbon in trees is lost through conventional logging practices, this plan insists that " when harvested,the wood products can continue that storage in long-lived, lower embodied carbon wood products and displace high-carbon cost materials and fuels." If ODF is sincere about becoming "a leader in promoting climate-smart forest policies and actions that achieve our vision by operationalizing goals, implementingactions, and measuring progress to achieving climate goals", this plan must incorporate the following: 1. a 20-30 year moratorium on harvesting trees 80 years or older in all state forests. 2. increasing harvest cycles to 65 years 3. Implementing afforestation wherever possible on state lands 4. Advocating to the legislature for reform of the OFPA, including a ban on removal of trees 80 years or older, increasing harvest cycles to 65 or more years, and banning clear cuts larger than 20 acres on all Oregon forests. 5. Developing a carbon pricing market for state and privately managed forests in Oregon The signs are growing louder each summer: Climate Change is real and will cost us in so many ways if we don't address it seriously now. This draft must boldly move Oregon before it's too late.

Public Comment
ODF Draft Climate Change and Carbon Plan

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Sent: Monday, June 28, 2021 1:20 PM
Subject:Comments for the draft Climate Change and Carbon Plan
Name Susan Applegate
Comment/question
Climate Change /Global Warming is our greatest threat. Oregon is poised because of our location, both as a Pacific Ocean state and as the holder of some of the richest carbon sequestration forests in the world, to become a global leader in climate-smart forestry. We need to transition Oregon forests from a leading source of emissions to a carbon asset. Today, logging is our leading carbon producer, while the forests themselves could become the biggest carbon sequester. Today we need to Identify areas with high carbon storage potential, mature and old growth forests, and stands that have never been logged. These mature and old growth forests store and sequester immense amounts of carbon. Wherever native stands of large trees exist on public lands, they should be protected as climate reserves. Incentivize conservation of mature and old growth forests on private lands. Today we need to Lengthen logging rotations. By the way, climate change will predictably make growing replacement trees harder. Definitely need to curb clear cut and slash logging practice and replace with resilience thinning. Current standard logging rotations undermine the ability of forests to optimize carbon storage. By allowing trees to grow for longer time periods, managers can improve carbon stocks while also increasing timber yield and timber quality. Increase green tree retention on the land during harvest and promote diversity of species as opposed to monoculture plantations. Greater retention of standing trees (especially bigger and older trees) after logging will keep more carbon on site, help to make regrowing forests more resilient to natural disturbance, increase availability of native seed stock for future restoration efforts, and provide for more higher-quality habitat for native species. Focus resources on community-preparedness for climate-influenced wildfires. In Oregon, logging is a far more significant source of greenhouse gas emissions than wildfire, particularly on the west-side of Cascades. Only 5-10% of stored carbon on the landscape is emitted during a wildfire compared to over 50% emitted by logging. Please don't exclude cumulative annual emissions from logging operations from climate planning. This continues to be denied and must become accepted and placed in planning. Studies estimate that annual logging-related emissions average 33 million metric tons of carbon dioxide equivalent per year since 2000. This means that logging is the largest source of emissions in the state. Please do not Overestimate carbon storage in harvested wood products. In Oregon, 65% of wood carbon harvested since 1900 has returned to the atmosphere, and only 19% remains in long-term products (Hudiburg et al. 2019). It is important NOT to define biomass as carbon neutral. Woody biomass emits significant amounts of carbon when burned to produce energy. Air pollutants released from biomass power plants disproportionately burden vulnerable communities, including low income and BIPOC communities. The state should make every effort to collaborate with other agencies and stakeholders in Oregon and beyond working to mitigate and adapt to climate change. If we don't work immediately to affect these changes, we will in short order, be unable to grow trees!! How expensive would it be to water hundreds of acres of newly planted trees because there is no rain water and triple digit degrees weather in the growing season! We must NOT Continue on with the status quo! I am vividly aware of the need to change our mode of operations. Timber companies that want to stay in business must see that they need to change their practices, drastically. My life depends on these changes, because it is my habitat. !

Oregon's decision-makers must take a step back and reevaluate some of the deeply ingrained policies and practices that have defined how Oregon approaches natural resources management. We must take bold action to address the climate and biodiversity crises before us--the impacts of which have and will continue to most heavily burden historically underserved and underrepresented Oregonians.

Public Comment
ODF Draft Climate Change and Carbon Plan

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From: Lauren Anderson
Sent: Monday, June 28, 2021 1:08 PM
Subject:feedback on climate plan draft
Attachments: CCCP DRAFT _LAedits.docx
Hi Danny,
This is probably more feedback than you ever wanted or needed, but here you go! This is a huge undertaking, and I really appreciate all your hard work on this report. Track changes and comments are in the attached word doc. Hopefully some of this is helpful for pulling together the next iteration of the report, but I recognize that ODF may not be ready to spell out some of these practices/ goals explicitly at this stage. Let me know if you have any questions.

Cheers,
Lauren Anderson
she/her/hers
Forest Climate Policy Coordinator
Oregon Wild's Portland Office

To: Oregon Department of Forestry
Cc: Oregon Board of Forestry
Re: Climate Change and Carbon Plan (CCCP)
Date: 6/30/21

Dear State Forester Hirsch and Staff of the Oregon Department of Forestry,

Thank you for leading an inclusive and transparent approach to developing the Oregon Department of Forestry's first Climate Change and Carbon Plan. This report represents a significant step forward for the agency by fully recognizing that the natural and human made landscapes we live in are changing rapidly. As Oregon struggles through the worst heatwave in the state's history, our leaders must act on the moral obligation to take every action possible to mitigate and adapt to the future impacts of climate change for our state. Climate change is one of the most challenging threats our society faces today, and every action we take to reduce emissions and sequester carbon now represents an investment in a better future for all Oregonians. The topline goals of the report represent an excellent start for elevating climate smart forestry in Oregon:

1. Reduce greenhouse-gas emissions,
2. Increase carbon sequestration (i.e., storage of carbon in trees), and
3. Positively benefit climate-impacted and resource-dependent communities.

But there are also several ways this document can be broadened and strengthened. We view the CCCP as the first step along a multi-year process to modernize the Department of Forestry and position Oregon as a national leader in climate-smart forestry. As such, the report should be visionary and ambitious in laying out the opportunities ahead of us. Below are several recommendations for strengthening the current draft of the CCCP.

1) **Create a timeline.** The report already recommends a five-year timeline for periodic updates and revisions to the CCCP, but it should also recommend a timeline for the climate-smart forestry goals. Some of these recommendations can be implemented in the near term, while other components will require a longer-term work plan. A timeline will establish clear expectations and ensure accountability.
2) **Identify key decision makers for policy implementation**. Some of the policy changes needed to make Oregon a national leader in climate-smart forestry can be implemented by the State Forester, some by the Board of Forestry, and some will require action from the State Legislature and Governor. In addition to laying out a timeline for major goals, the report should show who will need to lead on these objectives.

3) **Modernize interpretation of "Greatest Permanent Value."** As provided in ORS 530.050 (Management of lands acquired), "greatest permanent value" means healthy, productive, and sustainable forest ecosystems that over time and across the landscape provide a full range of social, economic, and environmental benefits to the people of Oregon. Climate change is now a threat that impacts all aspects of Oregon's social, economic and environmental landscape, and addressing this threat will be an integral part of achieving greatest permanent value. This should be clearly recognized in the report. We appreciate your evaluation of the impact of sequestration and emissions from logging (listed in the last section), but we also urge you to consider the use of the Social Cost of Carbon as a tool to evaluate "Greatest Permanent Value." Likewise, the value of watersheds and ecosystem impacts on fish, the impact of hotter, drier summers on water volume and temperature, and the decrease in summer time flow for at least ten years after clearcuts in western forests should be factored into Greatest Permanent Value.
4) **Take a comprehensive approach to research and monitoring.** We agree that research and monitoring is an essential aspect of tracking progress towards Oregon's future climate-smart forestry goals. As part of this research and monitoring we applaud the inclusion of monitoring and tracking of greenhouse gas emissions from the forestry sector as a whole. This includes emissions from the production of wood products, soil disturbance, slash burning, and transportation of logged trees. The total emissions from the forestry sector must be understood in order for a baseline to be established. Without a baseline, it will be challenging to track progress.
5) **Identify and protect areas that have high carbon storage potential on public lands.** Oregon state forests have little remaining old growth and mature forests left standing due to past logging practices. However, the state should immediately prohibit logging on any remaining intact stands on its lands, and it should work to identify mature forests and forests with high carbon storage potential that can also be included as a climate reserve system. Setting lands aside to act as long-term carbon sinks and climate refugia must be part of ODF's strategy to confront climate change.
6) **Ensure carbon storage in wood products is not treated as a substitute for forest protections.** 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 CO_2 annually (Harris et al 2016). 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 CCCP 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.

7) **Do not promote woody biomass as a carbon neutral fuel source.** Further, the report should acknowledge that past ODF emphasis on biomass use for energy production was an ineffective climate strategy and an environmental justice concern, and the report should 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.
8) **Prioritize effective community protections from wildfire.** Wildfire defense efforts should be focused in and around the communities most at risk, including in low-income communities and other vulnerable groups. Extensive wildland thinning efforts are ineffective, expensive and time consuming. Instead, the agency should focus on collaborative efforts with vulnerable communities to create defensible space around homes and ensure adequate emergency planning. The national Firewise program represents a model for this work that ODF should strive to emulate.
9) **Prioritize longer logging rotations.**[1] Many of Oregon's older forests have been converted to short rotation logging plantations. There is a strong need for a fundamental shift from these short-term rotations to much longer rotation intervals. Such practices will increase the amount of carbon stored and sequestered on the landscape and will increase the amount of fiber produced. Such a transition will also require the modernization of mill infrastructure that is capable of milling larger diameter logs, and ODF should work with federal and state lawmakers to help fund this transition.
10) **Ensure reforestation and afforestation is site specific and ecologically appropriate.** ODF should prioritize climate-smart management on areas that have burned too severely or frequently to recover naturally. A mosaic landscape with areas of burned forest ecosystems is natural and appropriate for Oregon's wildlife and ecosystem health. These forests should be allowed to recover naturally wherever possible. Further, any afforestation efforts should only focus on severely degraded lands. Afforestation should not displace any other ecosystems for the sake of increased carbon sequestration — wetlands, grasslands, and deserts are also valuable to people and wildlife.
11) **Identify current barriers to climate-smart forestry in Oregon.** The report says that "the Department will identify where there are gaps in protection, adaptation, mitigation, resilience, and restoration actions related to climate change that fall under the FPA." This

[1] See, e.g. Mark E. Harmon, 2019. Have product substitution carbon benefits been overestimated? A sensitivity analysis of key assumptions. Environmental Research Letters https://doi.org/10.1088/1748-9326/ab1e95

objective should be expanded to specifically identify barriers in existing statute and other policies that can hinder Oregon's efforts to implement climate-smart forestry.

12) **Add a specific environmental justice goal.** Environmental equity and justice considerations should have a separate goal in the document. While equity and justice should be woven into all of ODF's work on climate-smart forestry, it is helpful to recognize this as its own objective within the agency as well. Clean water, clean air, access to nature, and just economic transition are all part of this framework. The agency's climate planning must fully account for and work to redress disparate impacts of forest management practices to historically underrepresented and underserved groups, prioritizing attention and resources to the most overburdened groups. ODF should ensure these groups have meaningful and continuous opportunities to engage with and inform the agency's climate-smart forestry planning efforts and the programs and practices that follow.
13) **Add a specific private land goal.** The plan should specifically recognize voluntary conservation incentives on private lands as a key opportunity for elevating climate-smart forestry across the state. These incentives should focus on protections for intact forests, more green tree retention, larger riparian buffers and other key opportunities for mitigation and adaptation across private lands. ODF should take a more active role in developing state programs that can utilize federal dollars to elevate these practices in Oregon.
14) **Add a specific collaboration goal**. ODF should work closely with other state, tribal, and federal agencies to access additional expertise and capacity as it strives to implement climate-smart forestry in Oregon.
15) **Discourage salvage logging.** Salvage logging has numerous negative impacts on fire adapted ecosystems, but it is especially harmful from a carbon perspective. Burned trees can continue to store carbon for decades and should remain on the landscape following fires.
16) **Elevate education and outreach planning**. Many of the proposals in this plan represent a significant shift from business as usual. ODF should work with partners to ensure that stakeholders and the public understand and buy into the need for change.

Thank you for your work to establish Oregon as a national leader in climate-smart forestry. We hope that the final product of the Climate Change and Carbon Plan will help lay the groundwork for a strong, adaptive Oregon Department of Forestry that agencies across the country look to as an example.

Sincerely,

Lauren Anderson
Forest Climate Policy Coordinator
Oregon Wild

Joseph Vaile
Climate Director
KS Wild

Catherine Thomasson, MD
Chair
Environmental Caucus, Democratic Party of Oregon

Alan Journet Ph.D.
Co-facilitator
Southern Oregon Climate Action Now

Rebecca White
Wildlands Director
Cascadia Wildlands

Rand Schenck
Forestry Lead
Metro Climate Action Team, MCAT

Grace Brahler
Oregon Climate Action Plan & Policy Manager
Beyond Toxics

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Sent: Monday, June 28, 2021 12:19 PM
Subject:Comments for the draft Climate Change and Carbon Plan
Name Marj Hogan
Comment/question
Dear ODF, I am very excited about the Draft Climate Change and Carbon Plan. As a state with ample natural resources and potential for carbon sequestration and storage, we have not only the opportunity but the obligation to be a leader in developing plans to face climate change. I am writing to encourage you to include provisions for retaining standing trees on the land during harvest. By preventing monoculture, we can not only help to retain carbon on the harvest site, but help to make forests in regrowth more resilient, resistant to disturbance and disease, provide better native species habitat, and increase the sustainability of forest lands. Thank you.

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Sent: Monday, June 28, 2021 12:08 PM
Subject:Comments for the draft Climate Change and Carbon Plan
Name Jeffry Gottfried
Comment/question
I applaud ODF for many excellent improvements in this draft of Climate Change and Carbon Plan. As a part time resident of Clatsop County, I am pleased that Coast Range Forests are recognized for their world-class potential for sequestering carbon, especially in its remaining old growth and mature stands. I suggest that the final Plan specifically set-aside all stands of virgin forest and also second growth trees that are over 120 years old, as "Carbon Reserves" on State lands. Private forest owners should be incentivized to do the same. I urge ODF to significantly lengthen the time between logging and/or engage in more selective logging that would leave many more stands of green trees within harvest areas, so as to protect soils, provide for protection against landslides and capture more water (less runoff), thereby retaining more (cold) water that will allow downhill creeks and rivers to remain cold enough to sustain healthy salmon and trout populations. Do not engage in backcountry logging for the purpose of protecting homes and municipalities miles away, Rather, invest in creating fire-resistant perimeters around towns. Backcountry logging is itself a major fire hazard (think Tillamook Burn and other fires resulting from logging operations). Recognize in the Plan that the practice of burning biomass releases carbon dioxide and is certainly not carbon neutral. Storing carbon in the form of harvested wood is simply an accounting scheme and excuse for business as usual. All of the products made with this wood will release its carbon in the not too distant future and should not be considered in the same category of carbon-smart policy as protecting standing old growth and mature trees. One final point, ODF should cease all logging in watersheds that are cold-water refuges for salmon, steelhead and trout. For example, take Cook Creek watershed along the Nehalem River. From June-September, Cook Creek is one of the only sources of cold water to the Nehalem River which routinely heats up to 68-72 degrees, lethal temperatures for salmon. During these months, the plume of Cook Creek is loaded with fish that cannot move upstream or downstream due to hot, oxygen poor water that will kill them. Still, I see that ODF is planning on building a new road along Cook Creek in order to log the steep slopes above this resource that is vital to the very survival of anadromous and resident fish in the Nehalem, Cook Creek is

only one example of this phenomenon. Stop logging on steep slopes and stay away from the remaining cold water refuges on State Lands. Incentivize private landowners to do the same. Thank you For your consideration of these points.

Public Comment
ODF Draft Climate Change and Carbon Plan

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Sent: Monday, June 28, 2021 11:30 AM
Subject:Comments for the draft Climate Change and Carbon Plan
Name Ana Holub
Comment/question
To Oregon Lawmakers, Let's help our forests to become resilient and healthy once more. Extensive logging has already ruined rivers and animal habitat. It may also been exacerbating climate change and drought. Here are some suggestions that I received from KS Wild. I agree with them. Thank you for doing what's right for our great great grandchildren. DO: Situate Oregon as a global leader in climate-smart forestry and transition Oregon forests from a leading source of emissions to a carbon asset. Identify areas with high carbon storage potential, mature and old growth forests, and stands that have never been logged. Mature and old growth forests store and sequester immense amounts of carbon. Wherever native stands of large trees exist on public lands, they should be protected as climate reserves. Incentivize conservation of mature and old growth forests on private lands. Lengthen logging rotations. Current standard logging rotations undermine the ability of forests to optimize carbon storage. By allowing trees to grow for longer time periods, managers can improve carbon stocks while also increasing timber yield and timber quality. Increase green tree retention on the land during harvest and promote diversity of species as opposed to monoculture plantations. Greater retention of standing trees (especially bigger and older trees) after logging will keep more carbon on site, help to make regrowing forests more resilient to natural disturbance, increase availability of native seed stock for future restoration efforts, and provide for more higher-quality habitat for native species. Focus resources on community-preparedness for climate-influenced wildfires. In Oregon, logging is a far more significant source of greenhouse gas emissions than wildfire, particularly on the west-side of Cascades. Only 5-10% of stored carbon on the landscape is emitted during a wildfire compared to over 50% emitted by logging. DON'T: Exclude cumulative annual emissions from logging operations from climate planning. Studies estimate that annual logging-related emissions average 33 million metric tons of carbon dioxide equivalent per year since 2000. This means that logging is the largest source of emissions in the state. Overestimate carbon storage in harvested wood products. In Oregon, 65% of wood carbon harvested since 1900 has returned to the atmosphere, and only 19% remains in long-term products (Hudiburg et al. 2019). Define biomass as carbon neutral. Woody biomass emits significant amounts of carbon when burned to produce energy. Air pollutants released from biomass power plants disproportionately burden vulnerable communities, including low income and BIPOC communities. Operate in a vacuum. The state should make every effort to collaborate with other agencies and stakeholders in Oregon and beyond working to mitigate and adapt to climate change. Continue on with the status quo! Oregon's decision-makers must take a step back and reevaluate some of the deeply ingrained policies and practices that have defined how Oregon approaches natural resources management. We must take bold action to address the climate and biodiversity crises before us--the impacts of which have and will continue to most heavily burden historically underserved and underrepresented Oregonians.

Public Comment
ODF Draft Climate Change and Carbon Plan

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Sent: Monday, June 28, 2021 11:05 AM
Subject:Comments for the draft Climate Change and Carbon Plan
Name Lenny Dee
Comment/question
Oregon needs to become a leader in climate mitigation. Less logging more sequestration

Public Comment
ODF Draft Climate Change and Carbon Plan

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Sent: Monday, June 28, 2021 9:53 AM
Subject:Comments for the draft Climate Change and Carbon Plan
Name Patricia M Kincaid
Comment/question
I'm happy that Oregon is creating a CCCP. Please emphasize the preservation of mature forests. It is one of our best hedges against carbon dioxide. We must maintain our old growth and nearly-old-growth since they are our best carbon sink. The current heat wave shows us our future if we don't combat climate change agressively.

Public Comment
ODF Draft Climate Change and Carbon Plan

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Sent: Monday, June 28, 2021 9:32 AM
Subject:Comments for the draft Climate Change and Carbon Plan
Name Anthony Pepitone
Comment/question
Hello, Thank you for taking my comments. I very much appreciate that this plan will make Oregon a leader in both climate change mitigation and adaptation and in promoting climate smart forestry. I would only like to emphasize the importance increasing green tree retention on the land during harvest and promote diversity of species as opposed to monoculture plantations. This will help promote biodiversity in our forests. I would also encourage you to consider lengthening logging rotations, in order to optimize carbon storage while also increasing timber yield and timber quality. Thank you again, Anthony

Public Comment
ODF Draft Climate Change and Carbon Plan

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Sent: Monday, June 28, 2021 9:26 AM
Subject:Comments for the draft Climate Change and Carbon Plan
Name Bob Conder
Comment/question
I have recently discovered the "machinator" machine that chewed up all the dropped limbs off trees I'd limbed up on my back acre. It seems a better alternative to controlled burn which launches carbon into the atmosphere. I'm told they are not common in Oregon and the guy that came to my house said there was a much bigger machine down in Roseburg. Could ODF buy several and start mulching the forest floor with them? i can send you a photo of my back acre before and after if you'd like.

Public Comment
ODF Draft Climate Change and Carbon Plan

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Sent: Monday, June 28, 2021 9:23 AM
Subject:Comments for the draft Climate Change and Carbon Plan
Name marna herrington
Comment/question
Please identify areas with high carbon storage potential, including mature and old growth forests, and stands that have never been logged. Wherever native stands of large trees exist on public lands, they should be protected as climate reserves. Please Incentivize conservation of mature and old growth forests on private lands. Please lengthen logging rotations. Current standard logging rotations undermine the ability of forests to optimize carbon storage. By allowing trees to grow for longer time periods, we can improve carbon stocks while also increasing timber yield and timber quality. Please increase green tree retention on the land during harvest and promote diversity of species as opposed to monoculture plantations. Greater retention of standing trees (especially bigger and older trees) after logging will keep more carbon on site, help to make regrowing forests more resilient to natural disturbance, increase availability of native seed stock for future restoration efforts, and provide for more higher-quality habitat for native species. Please focus resources on community-preparedness for climate-influenced wildfires. In Oregon, logging is a far more significant source of greenhouse gas emissions than wildfire, particularly on the west-side of the Cascades. Please do not define biomass as carbon neutral – it releases significant amounts of CO2 when burned to produce energy. Please do not overestimate carbon storage in harvested wood products. Thank you.

Public Comment
ODF Draft Climate Change and Carbon Plan

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From: League of Women Voters of Oregon
Sent: Monday, June 28, 2021 9:11 AM
Subject:ODF DRAFT Climate Change and Carbon Plan - Comments
Attachments: LWVOR Comments on ODF DRAFT Climate Change and Carbon (2).pdf
Hello,
Please see the attached comments submitted on behalf of Josie Koehne, LWVOR Forestry Portfolio, and Claudia Keith, LWVOR Climate Coordinator.
Thank you,
Amanda Crittenden
League of Women Voters of Oregon
Office Administrator
Pronouns: she/her

LEAGUE OF WOMEN VOTERS OF OREGON

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.

June 28, 2021

To: Oregon Department of Forestry

Email: Danny.NORLANDER@oregon.gov; Lena.L.TUCKER@oregon.gov

Re: ODF DRAFT Climate Change and Carbon Plan - Comments

The League of Women Voters of Oregon's expectation was that the Oregon Department of Forestry would be presenting a final plan to meet the goals outlined in Governor Brown's EO 20-04 (now extended to August). This plan was intended to identify how each agency would meet specific targets 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." In 1990, there were **56 million metric tons of CO2e** emitted annually in Oregon. This means that the 16 agencies within the executive branch are tasked collectively with reducing emissions from all sectors to 30.8 MMT CO2e by 2035, and to 11.2 MMT by 2050. This is where all agencies working together should start in setting target goals in a plan for their agency, with each identifying and working towards annual goals to meet their targets. Fortunately for forestry, ODF has a baseline Forest Inventory Analysis (FIA) inventory for Oregon of how much CO2e is reduced annually by trees and soils, about 30.9 MMT CO2e, as outlined in the Oregon Forest Ecosystem Carbon Report. Using natural and working lands to sequester atmospheric carbon is one of the most efficient and cost-effective ways to capture carbon from the atmosphere. According to carbon science expert Dr. Beverly Law, "Regional studies have shown that preserving western U.S. temperate forest with high carbon density and lower vulnerability to mortality would account for about 8 years of the region's fossil fuel emissions, supporting US climate goals (Buotte et al. 2019)" and "allowing them to continue to accumulate carbon could increase forest carbon stocks substantially by 2100 (Hudiburg et al. 2009, Law et al. 2018, Buotte et al. 2020)." The LWVOR believes that promoting longer harvest rotations and preserving mature and natural forests should be the top priority for the department to meet the goals of meeting the target emissions required by EO 20-04.

What we had hoped to see is a plan that outlines target reductions by specified dates and the actions the department would be taking to meet those reductions. Instead, the document makes no mention of concrete targets. The draft plan's stated purpose is to: "Make Oregon forestry a leader in climate change mitigation and adaptation. The Oregon Department of Forestry will be a leader in promoting climate-smart forest policies and actions that achieve our vison by operationalizing goals, implementing actions, and measuring progress to achieving climate goals." This is a vague and not-quantifiable purpose, and the eight "goals" outlined in pages 10-19 are an unprioritized list of the *ways* goals might be reached at a future date such as "maintain a research and monitoring program" and "lead by example and demonstrate climate-informed forest management on State Forests to achieve greatest Permanent Value."

Although there are many ideas about what constitutes a plan, the following definitions are what most people expect to see in a plan. From Wikipedia: "A plan is typically any diagram or **list of steps with details of timing and resources, used to achieve an objective to do something**. It is commonly understood as a temporal set of intended actions through which one expects to achieve a goal." or "Components of an action plan include
A well-defined description of the goal to be achieved
Tasks/ steps that need to be carried out to reach the goal
People who will be in charge of carrying out each task
When will these tasks be completed (deadlines and milestones)
Resources needed to complete the tasks
Measures to evaluate progress"

The draft plan does not include these elements, but refers these steps to the staff, the Board of Forestry and a lengthy rule-making process sometime in the future. Given that climate change is already devastating the planet and forestry 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 DOJ has clearly established that the department has this regulatory authority and can develop carbon offsets and make much-needed reforms to the Forest Practices Act. We think the department should make tough decisions now based on current best science, climate-smart forest practices and the existing FIA inventory that they already have in hand. It does take decision-making courage, but this is how Oregon can become a regional "leader in climate change mitigation and adaptation."

The "meat" of the document starts on page 21 with "Accountability Measures" and "Supporting Actions" (pages 20 and 22) especially these:

- "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 the 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. This should be done with input from tribal and community-based organizations.

- Explore aspects of community forests and operationalize these interests and facets to the extent practical. Support local non-private forest ownership to meet the goals of the community. 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. An example of such areas would be stands in the Coast Range impacted by Swiss needle cast that have greatly slowed or ceased measurable growth. These stands should be 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 creation to dispose of slash instead of pile burning, and additional alternatives to burning biomass in the forest."

The document would be improved if this section was presented as a prioritized list with dates identified to meet specified target goals that relate to the amount of MMT of CO2e that might 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. Dates for when the Scenario Planning and Management Projections (page 29) will be completed and the criteria and the assumptions used in the modeling should also be included to allow for expert input from the public and the scientific community. 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.

Fortunately, the passage of SB 762 and other important funded legislation should provide ample resources to carry out the work needed. It seems there is a lot of analysis work that has not been included in this draft document, and until metrics are included, this cannot be considered an "actionable plan," but is merely an aspirational guide for future work for the department.

In addition, there is no explanation about why and what kind of additional staff are needed to develop a carbon offset program. Oregon and the department could develop a way to combine forest easements with a commercial forest offset market. 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 a much longer rotation. Creative solutions should to be explored in a timely manner and we hope to see ODF consider these recommended improvements in the next draft. Thank you for the opportunity to provide public input on this draft document.

Rebecca Gladstone
LWVOR President

Claudia Keith
LWVOR Climate Coordinator

Josie Koehne
LWVOR Forestry Portfolio

Public Comment
ODF Draft Climate Change and Carbon Plan

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Sent: Monday, June 28, 2021 9:06 AM
Subject:Comments for the draft Climate Change and Carbon Plan
Name Josie Koehne, on behalf of the League of Women Voters of Oregon
Comment/question
Re: ODF DRAFT Climate Change and Carbon Plan - Comments The League of Women Voters of Oregon's expectation was that the Oregon Department of Forestry would be presenting a final plan to meet the goals outlined in Governor Brown's EO 20-04 (now extended to August). This plan was intended to identify how each agency would meet specific targets 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." In 1990, there were 56 million metric tons of CO2e emitted annually in Oregon. This means that the 16 agencies within the executive branch are tasked collectively with reducing emissions from all sectors to 30.8 MMT CO2e by 2035, and to 11.2 MMT by 2050. This is where all agencies working together should start in setting target goals in a plan for their agency, with each identifying and working towards annual goals to meet their targets. Fortunately for forestry, ODF has a baseline Forest Inventory Analysis (FIA) inventory for Oregon of how much CO2e is reduced annually by trees and soils, about 30.9 MMT CO2e, as outlined in the Oregon Forest Ecosystem Carbon Report. Using natural and working lands to sequester atmospheric carbon is one of the most efficient and cost-effective ways to capture carbon from the atmosphere. According to carbon science expert Dr. Beverly Law, "Regional studies have shown that preserving western U.S. temperate forest with high carbon density and lower vulnerability to mortality would account for about 8 years of the region's fossil fuel emissions, supporting US climate goals (Buotte et al. 2019)" and "allowing them to continue to accumulate carbon could increase forest carbon stocks substantially by 2100 (Hudiburg et al. 2009, Law et al. 2018, Buotte et al. 2020)." The LWVOR believes that promoting longer harvest rotations and preserving mature and natural forests should be the top priority for the department to meet the goals of meeting the target emissions required by EO 20-04. What we had hoped to see is a plan that outlines target reductions by specified dates and the actions the department would be taking to meet those reductions. Instead, the document makes no mention of concrete targets. The draft plan's stated purpose is to: "Make Oregon forestry a leader in climate change mitigation and adaptation. The Oregon Department of Forestry will be a leader in promoting climate-smart forest policies and actions that achieve our vision by operationalizing goals, implementing actions, and measuring progress to achieving climate goals." This is a vague and not-quantifiable purpose, and the eight "goals" outlined in pages 10-19 are an unprioritized list of the ways goals might be reached at a future date such as "maintain a research and monitoring program" and "lead by example and demonstrate climate-informed forest management on State Forests to achieve greatest Permanent Value." Although there are many ideas about what constitutes a plan, the following definitions are what most people expect to see in a plan. From Wikipedia: "A plan is typically any diagram or list of steps with details of timing and resources, used to achieve an objective to do something. It is commonly understood as a temporal set of intended actions through which one expects to achieve a goal." or "Components of an action plan include A well-defined description of the goal to be achieved Tasks/ steps that need to be carried out to reach the goal People who will be in charge of carrying out each task When will these tasks be completed (deadlines and milestones) Resources needed to complete the tasks Measures to evaluate progress" The draft plan does not include these

elements, but refers these steps to the staff, the Board of Forestry and a lengthy rule-making process sometime in the future. Given that climate change is already devastating the planet and forestry 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 DOJ has clearly established that the department has this regulatory authority and can develop carbon offsets and make much-needed reforms to the Forest Practices Act. We think the department should make tough decisions now based on current best science, climate-smart forest practices and the existing FIA inventory that they already have in hand. It does take decision-making courage, but this is how Oregon can become a regional "leader in climate change mitigation and adaptation." The "meat" of the document starts on page 21 with "Accountability Measures" and "Supporting Actions" (pages 20 and 22) especially these: • "Slowly extend harvest rotations to increase storage while maintaining wood fiber flow to the forest industry. • Identify areas particularly susceptible to the deleterious effects of climate change and the 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. This should be done with input from tribal and community-based organizations. • Explore aspects of community forests and operationalize these interests and facets to the extent practical. Support local non-private forest ownership to meet the goals of the community. 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. An example of such areas would be stands in the Coast Range impacted by Swiss needle cast that have greatly slowed or ceased measurable growth. These stands should be 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 creation to dispose of slash instead of pile burning, and additional alternatives to burning biomass in the forest." The document would be improved if this section was presented as a prioritized list with dates identified to meet specified target goals that relate to the amount of MMT of CO2e that might 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. Dates for when the Scenario Planning and Management Projections (page 29) will be completed and the criteria and the assumptions used in the modeling should also be included to allow for expert input from the public and the scientific community. 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. Fortunately, the passage of SB 762 and other important funded legislation should provide ample resources to carry out the work needed. It seems there is a lot of analysis work that has not been included in this draft document, and until metrics are included, this cannot be considered an "actionable plan," but is merely an aspirational guide for future work for the department. In addition, there is no explanation about why and what kind of additional staff are needed to develop a carbon offset program. Oregon and the department could

develop a way to combine forest easements with a commercial forest offset market. 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 a much longer rotation. Creative solutions should be explored in a timely manner and we hope to see ODF consider these recommended improvements in the next draft. Thank you for the opportunity to provide public input on this draft document. Rebecca Gladstone Claudia Keith Josie Koehne LWVOR President LWVOR Climate Coordinator LWVOR Forestry Portfolio

Public Comment
ODF Draft Climate Change and Carbon Plan

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Sent: Monday, June 28, 2021 8:54 AM
Subject:Comments for the draft Climate Change and Carbon Plan
Name Barb Shamet
Comment/question
It is imperative that we hold the fraction of what's left of our old trees in sequestration reserve, we have fought for decades to preserve these forests against over logging via clear cuts, poisonous herbicide sprays, devastating wash outs and demolished salmon spawning beds. Wild life habitat, clean waters and clear running streams have been all but wiped out. These old trees hold and store thousands of gallons of water, prevent drought and mega fire, it's time the forestry dept stood for the forest and the public and NOT the Timber industry and you can bet we'll be in court to insure that fact is recognized, Thanks for your time regarding this extremely important critical issue. I have lived on the banks of the Millicoma River for almost 5 decades and seeing thousands of salmon go by my house Now down to a handful is very disconcerting, I hope we can work together for the wise management and future of Oregpn

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Sent: Sunday, June 27, 2021 8:22 PM
Subject:Comments for the draft Climate Change and Carbon Plan
Name s klof
Comment/question
Oregon's forests are priceless and deserve protection. They are worth far more than the lumber value that dominates decisions.

Public Comment
ODF Draft Climate Change and Carbon Plan

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Sent: Sunday, June 27, 2021 6:04 PM
Subject:Comments for the draft Climate Change and Carbon Plan
Name Rob Kugler
Comment/question
Thank you for the hard work already done on the plan. It reflects much of what we can hope for the future in terms of ensuring Oregon's forests serve both those who earn their liv ing from them and the state's climate change mitigation and adaptation goals. There are, however, some areas where I hope the plan can be strengthened and improved. I list those in the following. (1) It is important to identify and be clear about the areas in Oregon's forests with high carbon storage potential, especially mature and old growth forests, as well as stands that have never been logged. Wherever native stands of large trees exist on public lands, they should be protected as climate reserves. Likewise, it I would encourage the plan to incentivize conservation of mature and old growth forests on private lands. We need to make it more profitable for private landowners to leave trees standing. (2) Oregon needs to respect what forestry science has determined and lengthen logging rotations. Standard logging rotations undermine the ability of forests to optimize carbon storage, but if we allow trees to grow for longer time periods, we can improve carbon stocks—and we know that this also increases timber yield and timber quality. (3) It is essential to forest health—and to the quality of lumber harvested over the long terms—that we increase green tree retention on the land during harvest *and* promote diversity of species. Science makes clear that monoculture plantations should be a thing of the past. Indeed, retaining more standing trees (especially bigger and older trees) after logging keeps more carbon on site, helps to make regrowing forests more resilient to natural disturbance, increases availability of native seed stock for future restoration efforts, and provides for more higher-quality habitat for native species. The forestry science being done at OSU—paid for by Oregon's taxpayers!—makes this clear time and again. It's about time we put those insights to use. (4) We must focus adequate resources on community-preparedness for climate-influenced wildfires. (5) Please do not define biomass as carbon neutral – we know that it releases significant amounts of CO2 when burned to produce energy. (6) Finally, don't undercut all the other good work the plan will ensure by overestimating carbon storage in harvested wood products. Keep the accounting of carbon storage and release from forest-related activities honest.

Public Comment
ODF Draft Climate Change and Carbon Plan

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Sent: Sunday, June 27, 2021 5:46 PM
Subject:Comments for the draft Climate Change and Carbon Plan
Name Dave Maher
Comment/question
Identify areas with high carbon storage potential. For example, mature and old growth forests store and sequester immense amounts of carbon. Wherever native stands of large trees exist on public lands, they should be protected as climate reserves and incentivize conservation of mature and old growth forests on private lands. Increase green tree retention on the land during harvest and promote diversity of species as opposed to monoculture plantations. Greater retention of standing healthy trees after logging will keep more carbon on site, help to make regrowing forests more resilient to natural disturbance, increase availability of native seed stock for future restoration efforts, and provide for more higher-quality habitat for native species. The state should make every effort to collaborate with other agencies and stakeholders in Oregon and beyond working to mitigate and adapt to climate change.

Public Comment
ODF Draft Climate Change and Carbon Plan

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Sent: Sunday, June 27, 2021 3:54 PM
Subject:Comments for the draft Climate Change and Carbon Plan
Name Eugenia Tam
Comment/question
Hello ODF Climate Change Staff, Thank you for the significantly improved plan on Climate Change, the associated webinar and the opportunity to comment on it. I very much appreciate the work you have put in. Please see below for my comments. Thank you. Sincerely, Eugenia Tam (1) I agree with the Mission/Vision/Principles -- thank you! (2) Overall structure of the plan There is too much overlap between the text under each "goal" and the text under each "supporting action" -- both include a lot of background info (current challenges, potential actions, broader considerations). I think the plan would read much better with the following structure: - Plan overview -- this should describe the sections and structure of the document, how details are provided within each section of the supporting actions - Background -- problem statement, opportunities, EO 20-04 (some of the parts from the "Accountability Framework") - Goals -- 1-2 page of a list of JUST the goals (the italicized text) - Supporting actions -- some of the background info currently included in the "goals" can be merged with the text in this section - Future work needs (maybe merge into supporting actions?) - Work plan (timeline) (3) Pg. 7, "In the time the Department has been involved with working on climate change issues, it has made significant progress in some areas, but all members of the forest sector need to take additional, bold steps as we enter a critical phase in climate mitigation and adaptation." -- While I know that much work has been done in producing studies and reports, as well as some non-forestry actions within the agency, I take issue with the way this sentence implies that the department has made significant impact to carbon in the forestry setting, and that it is now up to other members of the sector to step up. The plan needs to be honest that the department has to drastically accelerate its pace and scope of work, bringing along the other members and stakeholders of this sector. (4) Pg. 8 "What is Climate-Smart Forestry?" - There are many publications, including ones from researches based in the Pacific Northwest, related to climate-smart forestry. I find it strange that the only one cited here is from researchers focused on European forests. - The sentences "Many would argue... Others would counter ..." are not helpful. - The discussion about carbon sequestration in forests and wood products needs to include life-cycle analysis which accounts for emissions due to harvest and production (fossil fuels, slash decomposition/burn, etc.). (5) Forestry Climate Action Goals In general many of the goal text (in italics) are emphasizing the means as opposed to the ends. I would love to see stronger, more tangible results stated as the goals. As an example, instead of this "goal": "Maintain a research and monitoring program to track the status and trends of ecological, economic, and social indicators and the effects of climate change and to track progress related to this plan." I think a more satisfactory version would be something like: "Ensure transparency to the progress related to this plan through research, monitoring, and providing access to data on ecological, economic, and social indicators as well as on the effects of climate change." As mentioned in my point (2) above, I think the plan would be more effective with a *succinct* list of goals, followed by the supporting actions which incorporates much of the remaining text in the goals section. (6) The goal and supporting actions related to private forests (p.10 and p.22) are overly vague. FPA rule development and revision -- when, with whose input, and with what specific goals? Stream buffers and green tree retention are not mentioned anywhere in the plan but they are

critical to habitat conservation. (7) Forest Management Plan and States Forests Carbon Storage (p.23) I generally agree with the bullet points on p.24. I would like to see more specific details about lengthening the rotation length (how much, where, by when), instead of just "slowly." As stated elsewhere in the plan, deferred mid-term harvest has been shown in a recent study to have significant climate benefit. This strategy should also apply on state forests. The internal price for carbon for state forest management needs to include the carbon emissions resulting from harvest operations and from decomposition and burning of products that are not long-lived. Thank you for explicitly including this component under the "Monitoring" supporting action. (8) Forest Carbon Offsets (p.27) I believe this is a typo, but it is an important one -- any carbon finance program needs to show rigorous additionality (not "additionally"). (9) Lack of timelines How can we have a plan without any target completion dates? We need some commitments at least on the completion of assessments. A work plan with a timeline, that includes all of the supporting actions, should be provided, even if there is a high degree of uncertainty. If the department is resource-constrained, the plan should include a budgetary component to address those issues.

Public Comment
ODF Draft Climate Change and Carbon Plan

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Sent: Sunday, June 27, 2021 11:39 AM
Subject:Comments for the draft Climate Change and Carbon Plan

Name Rand Schenck
Comment/question
ODF Draft Climate Change and Carbon Plan: Comments from Rand Schenck for the Metro Climate Action Team, MCAT* We, MCAT, applaud the many aspirational statements in the draft plan that demonstrate a willingness to take the climate crisis seriously and work to ensure that ODF will play a meaningful role in making "Oregon a leader in climate change mitigation and adaptation and in promoting climate smart forestry." Oregon has been a leader and model for the other states with such initiatives as the bottle bill, comprehensive statewide land use planning, and beach protection. We absolutely also need to be a national leader and model for the rest of the nation in effective climate smart forestry. Other very positive statements in the plan that we applaud include: ODF's recognition to shape forest policies through a social justice and equity lens; affirmation of the need to use the best available science; recognition that our west side forests have the potential for some of the highest rates of carbon sequestration and storage in the world. Lastly, we are especially pleased that ODF acknowledges that industrial forest management as practiced today is not climate smart. This is one of the most important declarations in the plan, as change only happens when the need for change is recognized. We strongly recommend that ODF reach agreement on what climate smart forestry truly means. While much has been written on this topic, too often the phrase has been used loosely to cover for what in fact are destructive forestry practices. We want to emphasize what we view as the three most critical aspects of climate smart forestry (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 and protection 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 immediately as carbon reserves. • Utilization of variable retention harvest practices 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 believe that with new leadership at ODF that the agency is poised to make a real difference in helping Oregon do its part in recognizing and acting on the amazing capacity of our forest to store and sequester carbon. In addition, we have extraordinary opportunities to do even more through reforestation and afforestation. We ask that you not view biomass as carbon neutral. It is not. Biomass used as fuel releases significant amounts of CO2. We also ask that you not overestimate carbon storage in harvested wood products. Please use the best available science. We are extremely appreciative of this opportunity to give ODF feedback on the draft Climate Change and Carbon Plan and look forward to future engagement with the Agency as this critical work on addressing the climate crisis continues. Rand Schenck Forestry Lead Metro Climate Action Team, MCAT *The OLCV Metro Climate Action Team (MCAT) is a community of experienced volunteers working within OLCV to steward significant greenhouse gas reduction policy into law in Oregon. We participate in the Oregon Climate

Action Plan (OCAP) coalition and partner with others on coordinated action. We actively organize to elect legislators who will work for strong climate legislation.

Public Comment
ODF Draft Climate Change and Carbon Plan

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Sent: Sunday, June 27, 2021 8:23 AM
Subject:Comments for the draft Climate Change and Carbon Plan

Name alden Moffatt
Comment/question
Foresters act like you know everything. Your "gut it out" logging policies of the past have greatly accelerated climate change and now we all have to live through what you have created. Thanks a lot. Thanks to you Oregons great forests have been reduced to puny plantations. Didn't you think there would be consequences for that. Quit acting like you know everything. That would be a good start for your so called climate plan.

Public Comment
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Sent: Sunday, June 27, 2021 8:14 AM
Subject:Comments for the draft Climate Change and Carbon Plan
Name Leigh Blake
Comment/question
Our forests are responsible for keeping our plant ALIVE..in ways that so many do not understand... and a healthy forest draws in rain....cleans air ...shelters the land....and a diversity of Older growth trees stall wildfires....We are trying to help where we can...and I hope that people around Oregon will help too...Stop the CLEARCUTS.!! Miles of mountains are now devoid of forests...and drought kills seedlings that the timber industries have replanted..Stop the greed...Actually the whole planet needs to rethink how we 'use' our invaluable resources...I believe in KS WILD here in Southern Oregon...and we support their commitment..Thank you....

Public Comment
ODF Draft Climate Change and Carbon Plan

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Sent: Saturday, June 26, 2021 12:55 PM
Subject:Comments for the draft Climate Change and Carbon Plan
Name marguery lee zucker
Comment/question
Writing on behalf of my family of ten (10): We are both depressed and frustrated by the seeming commitment of ODF to the already-wealthy timber industry. We must assume from ODF behaviors that it is beholden to this industry, financially and otherwise, to an extent that defines "conflict of interest". In an age of hideous climate change marked by drought, habitat degradation, and unprecedented extinctions, ODF should be the hero of Oregonians, not the abuser. Sadly, we cannot trust your agency's commitment to environmental health. Case in point: In Oregon, logging is a far more significant source of greenhouse gas emissions than wildfire, particularly on the west side of Cascades. Only 5-10% of stored carbon on the landscape is emitted during a wildfire compared to over 50% emitted by logging. What would we wish for? To establish Oregon as a global leader in climate-smart forestry and transition Oregon forests from a leading source of emissions to a carbon asset. This would require actions that ODF may politically oppose in order to protect its timber-industry support. We aren't optimistic; but consider the gift if you were to: --Identify areas with high carbon storage potential e.g., mature and old growth forests, and stands that have never been logged; these forests store and sequester immense amounts of carbon. Wherever native stands of large trees exist on public lands, protect them as climate reserves and incentivize conservation of mature and old growth forests on private lands. Additionally, lengthen logging rotations. Current rotations undermine the ability of forests to optimize carbon storage. (Bonus: would improve carbon stocks while increasing timber yield/quality.) --Increase green tree retention on the land during harvest and promote diversity of species as opposed to monoculture plantations. Some of our public forests look like tree farms; others are stump-ridden. We hate both! --Establish as policy the retention of more standing trees after logging, especially bigger/older trees: this would keep more carbon on site, help regrow forests that are more resilient to natural disturbance, increase availability of native seed stock for future restoration efforts, and provide more high-quality habitat for native species. And please don't: --Exclude cumulative annual emissions from logging operations from climate planning. Studies estimate that annual logging-related emissions average 33 million metric tons of carbon dioxide equivalent per year since 2000. This means that logging is the largest source of emissions in the state. --Overestimate carbon storage in harvested wood products. (In Oregon, 65% of wood carbon harvested since 1900 has returned to the atmosphere; only 19% remains in long-term products (Hudiburg et al. 2019). --Define biomass as carbon neutral: Woody biomass emits significant amounts of carbon when burned to produce energy. Air pollutants released from biomass power plants disproportionately burden vulnerable communities, including low income and BIPOC communities. --Continue on with the status quo! Oregon’s decision-makers must reevaluate some of the deeply ingrained policies and practices that have defined how Oregon approaches natural resources management, and take real action to address the climate and biodiversity crises before us.

Public Comment
ODF Draft Climate Change and Carbon Plan

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Sent: Saturday, June 26, 2021 12:26 PM
Subject:Comments for the draft Climate Change and Carbon Plan
Name Amy Rossman
Comment/question
I'm writing on the eve of what may surely be the hottest day in Oregon! We MUST take immediate action to avert the most drastic climate change. Forests are the easiest, most cost effective, of sequestering carbon and Oregon has a lot of forest. When I was a child growing up in Portland, we hiked every weekend in old growth forest. Now there is not so much of it left; now the forests are a patchwork of forests and clear cuts, especially the Coast Range. One has to search out old growth forests in order to enjoy their unique character--so cool, fresh, diverse, filled with wildlife and mushrooms. Old growth forests are resistant to fire damage and we will be having plenty of them. Also, we need the beavers to create wetlands to preserve patches of forests. We need the strongest plan for alleviating the worst of climate change.

Public Comment
ODF Draft Climate Change and Carbon Plan

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Sent: Saturday, June 26, 2021 11:49 AM
Subject:Comments for the draft Climate Change and Carbon Plan
Name Stacy Drake
Comment/question
DO: Situate Oregon as a global leader in climate-smart forestry and transition Oregon forests from a leading source of emissions to a carbon asset. Identify areas with high carbon storage potential, mature and old growth forests, and stands that have never been logged. Mature and old growth forests store and sequester immense amounts of carbon. Wherever native stands of large trees exist on public lands, they should be protected as climate reserves. Incentivize conservation of mature and old growth forests on private lands. Lengthen logging rotations. Current standard logging rotations undermine the ability of forests to optimize carbon storage. By allowing trees to grow for longer time periods, managers can improve carbon stocks while also increasing timber yield and timber quality. Increase green tree retention on the land during harvest and promote diversity of species as opposed to monoculture plantations. Greater retention of standing trees (especially bigger and older trees) after logging will keep more carbon on site, help to make regrowing forests more resilient to natural disturbance, increase availability of native seed stock for future restoration efforts, and provide for more higher-quality habitat for native species. Focus resources on community-preparedness for climate-influenced wildfires. In Oregon, logging is a far more significant source of greenhouse gas emissions than wildfire, particularly on the west-side of Cascades. Only 5-10% of stored carbon on the landscape is emitted during a wildfire compared to over 50% emitted by logging. DON'T: Exclude cumulative annual emissions from logging operations from climate planning. Studies estimate that annual logging-related emissions average 33 million metric tons of carbon dioxide equivalent per year since 2000. This means that logging is the largest source of emissions in the state. Overestimate carbon storage in harvested wood products. In Oregon, 65% of wood carbon harvested since 1900 has returned to the atmosphere, and only 19% remains in long-term products (Hudiburg et al. 2019). Define biomass as carbon neutral. Woody biomass emits significant amounts of carbon when burned to produce energy. Air pollutants released from biomass power plants disproportionately burden vulnerable communities, including low income and BIPOC communities. Operate in a vacuum. The state should make every effort to collaborate with other agencies and stakeholders in Oregon and beyond working to mitigate and adapt to climate change. Continue on with the status quo! Oregon's decision-makers must take a step back and reevaluate some of the deeply ingrained policies and practices that have defined how Oregon approaches natural resources management. We must take bold action to address the climate and biodiversity crises before us--the impacts of which have and will continue to most heavily burden historically underserved and underrepresented Oregonians.

Public Comment
ODF Draft Climate Change and Carbon Plan

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Sent: Saturday, June 26, 2021 10:32 AM
Subject:Comments for the draft Climate Change and Carbon Plan
Name Raven Sara, L.Ac.
Comment/question
The curren practice of replanting with GMO trees developed to produce pulp for pellet stoves is short-sighted and hazardous in two respects: 1. Said trees are more likely to burn quickly in a fire event. 2. The production and burning of pellets has a high carbon profile. For the consumer, pellet stoves pose an additional problem: they generally require a computer and electric energy use to work. The ideal situation for the long stretch is to have more human labor and less machine use. This would create more jobs and return Oregoneons to a healthier lifestyle. COVID-19 struck so many, in part, because the majority of people are too sedentary and eat processed food. My comments are based upon clinical experience and a past working in conservation in New York State.

Public Comment
ODF Draft Climate Change and Carbon Plan

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Sent: Saturday, June 26, 2021 8:59 AM
Subject:Comments for the draft Climate Change and Carbon Plan
Name Nyla Jebousek
Comment/question
Please adopt the policies below. This weekend we are experiencing record high temperatures and it's only June. Last fall the coast had forest fires. In the 40 years I have lived here there has been nothing comparable to this situation. Identify areas with high carbon storage potential, including mature and old growth forests, and stands that have never been logged. Wherever native stands of large trees exist on public lands, they should be protected as climate reserves. Incentivize conservation of mature and old growth forests on private lands. Lengthen logging rotations. Current standard logging rotations undermine the ability of forests to optimize carbon storage. By allowing trees to grow for longer time periods, we can improve carbon stocks while also increasing timber yield and timber quality. Increase green tree retention on the land during harvest and promote diversity of species as opposed to mono-culture plantations. Greater retention of standing trees (especially bigger and older trees) after logging will keep more carbon on site, help to make regrowing forests more resilient to natural disturbance, increase availability of native seed stock for future restoration efforts, and provide for more higher-quality habitat for native species. Focus resources on community-preparedness for climate-influenced wildfires. In Oregon, logging is a far more significant source of greenhouse gas emissions than wildfire, particularly on the west-side of the Cascades. Mitigation of this source is critical. · Not define biomass as carbon neutral – it releases significant amounts of CO2 when burned to produce energy. · Not overestimate carbon storage in harvested wood products. Thank you for your consideration of this climate emergency.

Public Comment
ODF Draft Climate Change and Carbon Plan

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Sent: Saturday, June 26, 2021 8:05 AM
Subject:Comments for the draft Climate Change and Carbon Plan
Name Matt Dybala
Comment/question
It's clear that average daily temperatures are increasing throughout much of Oregon in our historical weather data, and a comprehensive effort to reduce greenhouse gases in our lower atmosphere needs to happen now. Old growth forests and healthy, diverse forest ecosystems help sequester carbon in our soils, retain moisture and provide critical shade and temperature relief to understory species. Please consider a comprehensive plan that reduces clearcut logging practices, protects old growth habitat and reduces carbon emissions in Oregon's logging industry.

Public Comment
ODF Draft Climate Change and Carbon Plan

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Sent: Saturday, June 26, 2021 7:04 AM
Subject:Comments for the draft Climate Change and Carbon Plan
Name Laura Gutierrez
Comment/question
DO: Situate Oregon as a global leader in climate-smart forestry and transition Oregon forests from a leading source of emissions to a carbon asset. Identify areas with high carbon storage potential, mature and old growth forests, and stands that have never been logged. Mature and old growth forests store and sequester immense amounts of carbon. Wherever native stands of large trees exist on public lands, they should be protected as climate reserves. Incentivize conservation of mature and old growth forests on private lands. Lengthen logging rotations. Current standard logging rotations undermine the ability of forests to optimize carbon storage. By allowing trees to grow for longer time periods, managers can improve carbon stocks while also increasing timber yield and timber quality. Increase green tree retention on the land during harvest and promote diversity of species as opposed to monoculture plantations. Greater retention of standing trees (especially bigger and older trees) after logging will keep more carbon on site, help to make regrowing forests more resilient to natural disturbance, increase availability of native seed stock for future restoration efforts, and provide for more higher-quality habitat for native species. Focus resources on community-preparedness for climate-influenced wildfires. In Oregon, logging is a far more significant source of greenhouse gas emissions than wildfire, particularly on the west-side of Cascades. Only 5-10% of stored carbon on the landscape is emitted during a wildfire compared to over 50% emitted by logging. DON'T: Exclude cumulative annual emissions from logging operations from climate planning. Studies estimate that annual logging-related emissions average 33 million metric tons of carbon dioxide equivalent per year since 2000. This means that logging is the largest source of emissions in the state. Overestimate carbon storage in harvested wood products. In Oregon, 65% of wood carbon harvested since 1900 has returned to the atmosphere, and only 19% remains in long-term products (Hudiburg et al. 2019). Define biomass as carbon neutral. Woody biomass emits significant amounts of carbon when burned to produce energy. Air pollutants released from biomass power plants disproportionately burden vulnerable communities, including low income and BIPOC communities. Operate in a vacuum. The state should make every effort to collaborate with other agencies and stakeholders in Oregon and beyond working to mitigate and adapt to climate change. Continue on with the status quo! Oregon's decision-makers must take a step back and reevaluate some of the deeply ingrained policies and practices that have defined how Oregon approaches natural resources management. We must take bold action to address the climate and biodiversity crises before us--the impacts of which have and will continue to most heavily burden historically underserved and underrepresented Oregonians.

Public Comment
ODF Draft Climate Change and Carbon Plan

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Sent: Friday, June 25, 2021 8:28 PM
Subject:Comments for the draft Climate Change and Carbon Plan
Name Tyler Stone
Comment/question
DO: Situate Oregon as a global leader in climate-smart forestry and transition Oregon forests from a leading source of emissions to a carbon asset. Identify areas with high carbon storage potential, mature and old growth forests, and stands that have never been logged. Mature and old growth forests store and sequester immense amounts of carbon. Wherever native stands of large trees exist on public lands, they should be protected as climate reserves. Incentivize conservation of mature and old growth forests on private lands. Lengthen logging rotations. Current standard logging rotations undermine the ability of forests to optimize carbon storage. By allowing trees to grow for longer time periods, managers can improve carbon stocks while also increasing timber yield and timber quality. Increase green tree retention on the land during harvest and promote diversity of species as opposed to monoculture plantations. Greater retention of standing trees (especially bigger and older trees) after logging will keep more carbon on site, help to make regrowing forests more resilient to natural disturbance, increase availability of native seed stock for future restoration efforts, and provide for more higher-quality habitat for native species. Focus resources on community-preparedness for climate-influenced wildfires. In Oregon, logging is a far more significant source of greenhouse gas emissions than wildfire, particularly on the west-side of Cascades. Only 5-10% of stored carbon on the landscape is emitted during a wildfire compared to over 50% emitted by logging. DON'T: Exclude cumulative annual emissions from logging operations from climate planning. Studies estimate that annual logging-related emissions average 33 million metric tons of carbon dioxide equivalent per year since 2000. This means that logging is the largest source of emissions in the state. Overestimate carbon storage in harvested wood products. In Oregon, 65% of wood carbon harvested since 1900 has returned to the atmosphere, and only 19% remains in long-term products (Hudiburg et al. 2019). Define biomass as carbon neutral. Woody biomass emits significant amounts of carbon when burned to produce energy. Air pollutants released from biomass power plants disproportionately burden vulnerable communities, including low income and BIPOC communities. Operate in a vacuum. The state should make every effort to collaborate with other agencies and stakeholders in Oregon and beyond working to mitigate and adapt to climate change. Continue on with the status quo! Oregon's decision-makers must take a step back and reevaluate some of the deeply ingrained policies and practices that have defined how Oregon approaches natural resources management. We must take bold action to address the climate and biodiversity crises before us--the impacts of which have and will continue to most heavily burden historically underserved and underrepresented Oregonians.

Public Comment
ODF Draft Climate Change and Carbon Plan

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Sent: Friday, June 25, 2021 7:33 PM
Subject:Comments for the draft Climate Change and Carbon Plan
Name Spencer Lennard
Comment/question
I implore your agency to end the legacy of destructive forestry, such as clearcutting, high grading and herbicide use. Your management is an absolute embarrassment worldwide and is obviously contributing to increasing severe wildfire risk, species extinction and destructive climate change. Please changer your management practices to proven forestry opportunities;ortunites such as those that reduce wildfire risk and destructive climate change. Sincerely, Spencer Lennard

Public Comment
ODF Draft Climate Change and Carbon Plan

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Sent: Friday, June 25, 2021 6:32 PM
Subject:Comments for the draft Climate Change and Carbon Plan
Name chuck burr
Comment/question
When is the government going to start representing the people and future generations, and not the timber companies?

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Sent: Friday, June 25, 2021 2:22 PM
Subject:Comments for the draft Climate Change and Carbon Plan
Name June Mohler Mitman
Comment/question
I agree completely with the following points, emphasized by the Klamath-Siskiyou Wildlands Center. Oregon should be a leader in sustainable, responsible forestry. Why are we the opposite? We have been shamefully leaving our forests, in the hands businessmen who care only for the quickest personal profit, without any regard to the wellbeing of Oregon into the future. On their behalf, we have allowed our greatest source of wealth to be strip-mined, and hauled away, and we have chosen to replant unhealthy, unnatural, fire-prone tree farms, to be stripped away again a few years later. For allowing our forests to be consumed by a few "timber barons", and timber industry workers who relied on crumbs from their tables, Oregonians have relied on a boom and bust economy in our timber communities, endured polluted water, vanishing fish and wildlife, unregulated herbicide spraying, mud slides, spreading tree diseases, invasive weeds, heat and drought. Now we are beginning to suffer from the effects of climate change, without the protection healthy forests could have provided, had we responsibly conserved them in a functional state. The native, diverse, mature forest cover that we have given up should have continued to provide fresh, clean water, cool, humid air, and protect us from droughts and excessive heat, and should have been more resistant and resilient to fire, long into the future. Because of irresponsible management which favored timber industry profit over all else, most of our "forest" lands are in a state of ruin. It is long past time to reverse this trend, stop clearcutting, preserve old and mature native forest habitats, and start trying to restore what we have lost. Situate Oregon as a global leader in climate-smart forestry and transition Oregon forests from a leading source of emissions to a carbon asset. Identify areas with high carbon storage potential, mature and old growth forests, and stands that have never been logged. Mature and old growth forests store and sequester immense amounts of carbon. Wherever native stands of large trees exist on public lands, they should be protected as climate reserves. Incentivize conservation of mature and old growth forests on private lands. Lengthen logging rotations. Current standard logging rotations undermine the ability of forests to optimize carbon storage. By allowing trees to grow for longer time periods, managers can improve carbon stocks while also increasing timber yield and timber quality. Increase green tree retention on the land during harvest and promote diversity of species as opposed to monoculture plantations. Greater retention of standing trees (especially bigger and older trees) after logging will keep more carbon on site, help to make regrowing forests more resilient to natural disturbance, increase availability of native seed stock for future restoration efforts, and provide for more higher-quality habitat for native species. Focus resources on community-preparedness for climate-influenced wildfires. In Oregon, logging is a far more significant source of greenhouse gas emissions than wildfire, particularly on the west-side of Cascades. Only 5-10% of stored carbon on the landscape is emitted during a wildfire compared to over 50% emitted by logging. DON'T: Exclude cumulative annual emissions from logging operations from climate planning. Studies estimate that annual logging-related emissions average 33 million metric tons of carbon dioxide equivalent per year since 2000. This means that logging is the largest source of emissions in the state. DON'T: Overestimate carbon storage in harvested wood products. In Oregon, 65% of wood carbon harvested since 1900 has returned to the atmosphere, and only 19% remains in

long-term products (Hudiburg et al. 2019). DON'T: Define biomass as carbon neutral. Woody biomass emits significant amounts of carbon when burned to produce energy. Air pollutants released from biomass power plants disproportionately burden vulnerable communities, including low income and BIPOC communities. DON'T: Operate in a vacuum. The state should make every effort to collaborate with other agencies and stakeholders in Oregon and beyond working to mitigate and adapt to climate change. DON'T: Continue on with the status quo! Oregon's decision-makers must take a step back and reevaluate some of the deeply ingrained policies and practices that have defined how Oregon approaches natural resources management. We must take bold action to address the climate and biodiversity crises before us--the impacts of which have and will continue to most heavily burden historically underserved and underrepresented Oregonians. Thank you for taking the time to consider these points, before making your decision.

Public Comment
ODF Draft Climate Change and Carbon Plan

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Sent: Friday, June 25, 2021 12:26 PM
Subject:Comments for the draft Climate Change and Carbon Plan
Name denine heinemann
Comment/question
Everyone has already weighed in on the big, common points, so I would like to say something in favor of harsher punishments for fire starters. We have had numerous fires these past few years, intentionally set by people, that did major damage, and with laughable consequences to the arsonists. I would like to see some very harsh punishments made standard for the criminals, no matter the age---children under 18, their parents are also indicted.

Public Comment
ODF Draft Climate Change and Carbon Plan

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Sent: Friday, June 25, 2021 12:00 PM
Subject:Comments for the draft Climate Change and Carbon Plan
Name Terri Williams
Comment/question
Comments on the Draft Carbon Change and Climate Plan: In this long-term plan for the future, please be sure to: identify forests with mature and old growth trees that store the most carbon and protect those forests and those trees; ensure carbon is stored longer by increasing the interval between logging; and replant logged areas with diverse species, because diverse forests are more resistant to wildfire, which releases carbon, than all the same trees.

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Sent: Friday, June 25, 2021 11:13 AM
Subject:Comments for the draft Climate Change and Carbon Plan
Name John Altshuler
Comment/question
DO: Situate Oregon as a global leader in climate-smart forestry and transition Oregon forests from a leading source of emissions to a carbon asset. Identify areas with high carbon storage potential, mature and old growth forests, and stands that have never been logged. Mature and old growth forests store and sequester immense amounts of carbon. Wherever native stands of large trees exist on public lands, they should be protected as climate reserves. Incentivize conservation of mature and old growth forests on private lands. Lengthen logging rotations. Current standard logging rotations undermine the ability of forests to optimize carbon storage. By allowing trees to grow for longer time periods, managers can improve carbon stocks while also increasing timber yield and timber quality. Increase green tree retention on the land during harvest and promote diversity of species as opposed to monoculture plantations. Greater retention of standing trees (especially bigger and older trees) after logging will keep more carbon on site, help to make regrowing forests more resilient to natural disturbance, increase availability of native seed stock for future restoration efforts, and provide for more higher-quality habitat for native species. Focus resources on community-preparedness for climate-influenced wildfires. In Oregon, logging is a far more significant source of greenhouse gas emissions than wildfire, particularly on the west-side of Cascades. Only 5-10% of stored carbon on the landscape is emitted during a wildfire compared to over 50% emitted by logging. DON'T: Exclude cumulative annual emissions from logging operations from climate planning. Studies estimate that annual logging-related emissions average 33 million metric tons of carbon dioxide equivalent per year since 2000. This means that logging is the largest source of emissions in the state. Overestimate carbon storage in harvested wood products. In Oregon, 65% of wood carbon harvested since 1900 has returned to the atmosphere, and only 19% remains in long-term products (Hudiburg et al. 2019). Define biomass as carbon neutral. Woody biomass emits significant amounts of carbon when burned to produce energy. Air pollutants released from biomass power plants disproportionately burden vulnerable communities, including low income and BIPOC communities. Operate in a vacuum. The state should make every effort to collaborate with other agencies and stakeholders in Oregon and beyond working to mitigate and adapt to climate change. Continue on with the status quo! Oregon's decision-makers must take a step back and reevaluate some of the deeply ingrained policies and practices that have defined how Oregon approaches natural resources management. We must take bold action to address the climate and biodiversity crises before us--the impacts of which have and will continue to most heavily burden historically underserved and underrepresented Oregonians.

Public Comment
ODF Draft Climate Change and Carbon Plan

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Sent: Friday, June 25, 2021 9:21 AM
Subject:Comments for the draft Climate Change and Carbon Plan
Name Byron Rendar
Comment/question
It seems like a forever battle to save our forests and the remaining old-growth. Now pro-logging is using the excuse of fire as a way in to cut more trees under the guise of reducing fuels. But science has shown us that overlogging and replanting are not the way to go to increase forest health and prevent forest fires. So what should be done is no less than a shift in priorities that starts with a long-term view. This includes identifying and protecting old-growth and other stands that sequester carbon recognizing that clear cutting emits more stored carbon than fires being aware that leaving more trees standing contributes to resiliency letting trees grow longer and bigger before cutting helps carbon storage reducing cutting reduces stress in the face of that caused by global warming being honest and transparent in the decisions you make, recognizing it's no longer business as usual, and don't try to tilt the scales in favor of logging

Public Comment
ODF Draft Climate Change and Carbon Plan

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Sent: Friday, June 25, 2021 8:48 AM
Subject:Comments for the draft Climate Change and Carbon Plan
Name Matthew Negherbon
Comment/question
I ride my motorcycle on Forest roads often. I see clear cutting on private land and wholesale destruction of cutting old growth trees. It is hard to watch this happening . The planet is warming and every large tree cut down is making it happen faster. We must take action to save our big trees now Matthew Negherbon

Public Comment
ODF Draft Climate Change and Carbon Plan

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Sent: Friday, June 25, 2021 6:56 AM
Subject:Comments for the draft Climate Change and Carbon Plan

Name Michelle Bienick
Comment/question
Clearcutting is a heinous act! We are in a climate crisis. We need healthy forests and old-growth trees to sustain life on earth! We are at a point in history where humans need to choose actions that move toward a sustainable future over GREED!

Public Comment
ODF Draft Climate Change and Carbon Plan

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Sent: Thursday, June 24, 2021 8:01 PM
Subject:Comments for the draft Climate Change and Carbon Plan
Name Patricia Kelly
Comment/question
You want sustainable money???? Respect the planet.

Public Comment
ODF Draft Climate Change and Carbon Plan

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Sent: Thursday, June 24, 2021 7:08 PM
Subject:Comments for the draft Climate Change and Carbon Plan
Name Susan Delles
Comment/question
Situate Oregon as a global leader in climate-smart forestry and transition Oregon forests from a leading source of emissions to a carbon asset. Identify areas with high carbon storage potential, mature and old growth forests, and stands that have never been logged. Mature and old growth forests store and sequester immense amounts of carbon. Wherever native stands of large trees exist on public lands, they should be protected as climate reserves. Incentivize conservation of mature and old growth forests on private lands. Lengthen logging rotations. Current standard logging rotations undermine the ability of forests to optimize carbon storage. By allowing trees to grow for longer time periods, managers can improve carbon stocks while also increasing timber yield and timber quality. Increase green tree retention on the land during harvest and promote diversity of species as opposed to monoculture plantations. Greater retention of standing trees-ESPECIALLY LARGER, OLDER TREES-should be the goal. Focus resources on community-preparedness for climate-influenced wildfires. In Oregon, logging is a far more significant source of greenhouse gas emissions than wildfire, particularly on the west-side of Cascades. Only 5-10% of stored carbon on the landscape is emitted during a wildfire compared to over 50% emitted by logging. DON'T: Exclude cumulative annual emissions from logging operations from climate planning. Studies estimate that annual logging-related emissions average 33 million metric tons of carbon dioxide equivalent per year since 2000. This means that logging is the largest source of emissions in the state overestimate carbon storage in harvested wood products. In Oregon, 65% of wood carbon harvested since 1900 has returned to the atmosphere, and only 19% remains in long-term products (Hudiburg et al. 2019). Don't define biomass as carbon neutral. Woody biomass emits significant amounts of carbon when burned to produce energy. Air pollutants released from biomass power plants disproportionately burden vulnerable communities, including low income and BIPOC communities. Don't Operate in a vacuum. The state should make every effort to collaborate with other agencies and stakeholders in Oregon and beyond working to mitigate and adapt to climate change. Don't continue on with the status quo! Oregon's decision-makers must take a step back and reevaluate some of the deeply ingrained policies and practices that have defined how Oregon approaches natural resources management. We must take bold action to address the climate and biodiversity crises before us--the impacts of which have and will continue to most heavily burden historically underserved and underrepresented Oregonians.

Public Comment
ODF Draft Climate Change and Carbon Plan

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Sent: Thursday, June 24, 2021 7:06 PM
Subject:Comments for the draft Climate Change and Carbon Plan
Name Allan Widmeyer
Comment/question
Forestry practices of the past do not work today. Need some proof. Drive from Mount Shasta to Redding on Hwy. 5. The now destroyed "managed" forest of nearly all same size trees too close together with lack of other plant/tree species is completely obvious. All that remains is immature dead black trees like some kind of monument to BAD forestry practices. We need to create mixed tree forests and protect with extreme vigilance the big old trees. Big old trees (old growth) should not be logged! Most of the trees now harvested now are burned as bio-mass, used for wood chips, or other short term use products which could much more economically and environmentally be replaced by non-tree sources. Our trees should only (if of sufficient quality) be used for long term products such as lumber for construction and furniture. Please protect what diversity can be created so that our forests are more resilient to fires. The protection of old trees also protects the rest of the trees as they help in many ways to create a more growth friendly environment. STOP the insane poisoning of our forest lands with extremely dangerous spraying of herbicidal and other chemicals. This unnecessary poisoning of all forest life, water, soil damages the entire ecosystem. There is no way to protect the public from these extremely damaging arial poison spray programs. These toxins also go on to kill and damage our own health not to mention soil organisms which contribute to soil health. We can no longer withstand the fire danger created by past practices of extremely poor forest management. A healthy forest with mixed trees and wild life create a nearly unconceivable benefit to our environment. Stop poisoning the fores (the forestry management toxic arial spraying) this causes untold damage and must be stopped. Only by improving soil fertility (not poisoning it) and quality of water, increasing forest wild life health can we begin to see the forests begin to improve, which would also improve timber harvests and timber quality.

Public Comment
ODF Draft Climate Change and Carbon Plan

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Sent: Thursday, June 24, 2021 6:28 PM
Subject:Comments for the draft Climate Change and Carbon Plan
Name Robert Albee
Comment/question
Please prioritize forest planning that ceases cutting of all old and second growth and prioritizes the conservation of forests as carbon sinks and wildlife habitat. Alternate fibers are available to replace the current forest extraction and we are running out of time to mitigate the crisis that carbon extraction from the earth's surface is causing. Please act now to support the will of people over corporations. Your immediate support is required.

Public Comment
ODF Draft Climate Change and Carbon Plan

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Sent: Thursday, June 24, 2021 6:20 PM
Subject:Comments for the draft Climate Change and Carbon Plan

Name Jim Yarbrough
Comment/question
I ask that you do these things: Situate Oregon as a global leader in climate-smart forestry and transition Oregon forests from a leading source of emissions to a carbon asset. Identify areas with high carbon storage potential, mature and old growth forests, and stands that have never been logged. Mature and old growth forests store and sequester immense amounts of carbon. Wherever native stands of large trees exist on public lands, they should be protected as climate reserves. Incentivize conservation of mature and old growth forests on private lands. Lengthen logging rotations. Current standard logging rotations undermine the ability of forests to optimize carbon storage. By allowing trees to grow for longer time periods, managers can improve carbon stocks while also increasing timber yield and timber quality. Increase green tree retention on the land during harvest and promote diversity of species as opposed to monoculture plantations. Greater retention of standing trees (especially bigger and older trees) after logging will keep more carbon on site, help to make regrowing forests more resilient to natural disturbance, increase availability of native seed stock for future restoration efforts, and provide for more higher-quality habitat for native species. Focus resources on community-preparedness for climate-influenced wildfires. In Oregon, logging is a far more significant source of greenhouse gas emissions than wildfire, particularly on the west-side of Cascades. Only 5-10% of stored carbon on the landscape is emitted during a wildfire compared to over 50% emitted by logging. I ask that you DO NOT: Exclude cumulative annual emissions from logging operations from climate planning. Studies estimate that annual logging-related emissions average 33 million metric tons of carbon dioxide equivalent per year since 2000. This means that logging is the largest source of emissions in the state. Overestimate carbon storage in harvested wood products. In Oregon, 65% of wood carbon harvested since 1900 has returned to the atmosphere, and only 19% remains in long-term products (Hudiburg et al. 2019). Define biomass as carbon neutral. Woody biomass emits significant amounts of carbon when burned to produce energy. Air pollutants released from biomass power plants disproportionately burden vulnerable communities, including low income and BIPOC communities. Operate in a vacuum. The state should make every effort to collaborate with other agencies and stakeholders in Oregon and beyond working to mitigate and adapt to climate change. Continue on with the status quo! Oregon's decision-makers must take a step back and reevaluate some of the deeply ingrained policies and practices that have defined how Oregon approaches natural resources management. We must take bold action to address the climate and biodiversity crises before us--the impacts of which have and will continue to most heavily burden historically underserved and underrepresented Oregonians.

Public Comment
ODF Draft Climate Change and Carbon Plan

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Sent: Thursday, June 24, 2021 5:00 PM
Subject:Comments for the draft Climate Change and Carbon Plan
Name Suzanne Zook
Comment/question
The disasters of ignoring climate change are already present and getting worse each year. We have to do everything in our power to preserve our forests and keep them healthy. They are one of the most important resources we have to keep warming at bay, and maybe with strong, concerted effort, be able to start turning things around.

Public Comment
ODF Draft Climate Change and Carbon Plan

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Sent: Thursday, June 24, 2021 4:49 PM
Subject:Comments for the draft Climate Change and Carbon Plan
Name Jules Moritz
Comment/question
DO: Situate Oregon as a global leader in climate-smart forestry and transition Oregon forests from a leading source of emissions to a carbon asset. Identify areas with high carbon storage potential, mature and old growth forests, and stands that have never been logged. Mature and old growth forests store and sequester immense amounts of carbon. Wherever native stands of large trees exist on public lands, they should be protected as climate reserves. Incentivize conservation of mature and old growth forests on private lands. Lengthen logging rotations. Current standard logging rotations undermine the ability of forests to optimize carbon storage. By allowing trees to grow for longer time periods, managers can improve carbon stocks while also increasing timber yield and timber quality. Increase green tree retention on the land during harvest and promote diversity of species as opposed to monoculture plantations. Greater retention of standing trees (especially bigger and older trees) after logging will keep more carbon on site, help to make regrowing forests more resilient to natural disturbance, increase availability of native seed stock for future restoration efforts, and provide for more higher-quality habitat for native species. Focus resources on community-preparedness for climate-influenced wildfires. In Oregon, logging is a far more significant source of greenhouse gas emissions than wildfire, particularly on the west-side of Cascades. Only 5-10% of stored carbon on the landscape is emitted during a wildfire compared to over 50% emitted by logging. DON'T: Exclude cumulative annual emissions from logging operations from climate planning. Studies estimate that annual logging-related emissions average 33 million metric tons of carbon dioxide equivalent per year since 2000. This means that logging is the largest source of emissions in the state. Overestimate carbon storage in harvested wood products. In Oregon, 65% of wood carbon harvested since 1900 has returned to the atmosphere, and only 19% remains in long-term products (Hudiburg et al. 2019). Define biomass as carbon neutral. Woody biomass emits significant amounts of carbon when burned to produce energy. Air pollutants released from biomass power plants disproportionately burden vulnerable communities, including low income and BIPOC communities. Operate in a vacuum. The state should make every effort to collaborate with other agencies and stakeholders in Oregon and beyond working to mitigate and adapt to climate change. Continue on with the status quo! Oregon's decision-makers must take a step back and reevaluate some of the deeply ingrained policies and practices that have defined how Oregon approaches natural resources management. We must take bold action to address the climate and biodiversity crises before us--the impacts of which have and will continue to most heavily burden historically underserved and underrepresented Oregonians.

Public Comment
ODF Draft Climate Change and Carbon Plan

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Sent: Thursday, June 24, 2021 4:48 PM
Subject:Comments for the draft Climate Change and Carbon Plan
Name Martin Fisher
Comment/question
With the development of the Climate Change & Carbon Plan, Oregon has the opportunity to stand apart as a leader in climate-smart forestry. Right now, logging is the number one source of greenhouse gases and pollution in the state of Oregon. Rather than having work in our forests contribute to climate change, we should identify areas within them that have high carbon storage potential: mature and old-growth forests. Wherever native stands of large trees appear on public lands, we should set them aside to protect them as climate reserves. We should also incentivize conservation of old-growth forests on private lands. If we encourage landowners to let trees grow for longer before harvest, we can improve carbon stocks. I also urge you to include plans that would promote diversity of tree species in forests and discourage monoculture plantations. Additionally, I encourage plans for community preparedness for wildfires. As you are drafting this plan, I strongly urge you to refrain from excluding cumulative annual emissions from logging operations, and not to overestimate carbon storage in harvested wood products. In Oregon, 65% of wood carbon harvested since 1900 has returned to the atmosphere, and only 19% remains in long-term products (Hudiburg et al. 2019) Please also avoid defining biomass as carbon neutral. Biomass emits a significant amount of carbon when burned to produce energy. Oregon has lagged behind our neighboring states of Washington and California in forestry regulations for decades. We have embarrassingly weak forest protection laws. Now is the time to step up and make changes that bring Oregon's forestry practices in line with current science.

Public Comment
ODF Draft Climate Change and Carbon Plan

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Sent: Thursday, June 24, 2021 4:48 PM
Subject:Comments for the draft Climate Change and Carbon Plan
Name Regan Fisher
Comment/question
With the development of the Climate Change & Carbon Plan, Oregon has the opportunity to stand apart as a leader in climate-smart forestry. Right now, logging is the number one source of greenhouse gases and pollution in the state of Oregon. Rather than having work in our forests contribute to climate change, we should identify areas within them that have high carbon storage potential: mature and old-growth forests. Wherever native stands of large trees appear on public lands, we should set them aside to protect them as climate reserves. We should also incentivize conservation of old-growth forests on private lands. If we encourage landowners to let trees grow for longer before harvest, we can improve carbon stocks. I also urge you to include plans that would promote diversity of tree species in forests and discourage monoculture plantations. Additionally, I encourage plans for community preparedness for wildfires. As you are drafting this plan, I strongly urge you to refrain from excluding cumulative annual emissions from logging operations, and not to overestimate carbon storage in harvested wood products. In Oregon, 65% of wood carbon harvested since 1900 has returned to the atmosphere, and only 19% remains in long-term products (Hudiburg et al. 2019) Please also avoid defining biomass as carbon neutral. Biomass emits a significant amount of carbon when burned to produce energy. Oregon has lagged behind our neighboring states of Washington and California in forestry regulations for decades. We have embarrassingly weak forest protection laws. Now is the time to step up and make changes that bring Oregon's forestry practices in line with current science.

Public Comment
ODF Draft Climate Change and Carbon Plan

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Sent: Thursday, June 24, 2021 4:04 PM
Subject:Comments for the draft Climate Change and Carbon Plan
Name Mira Wiegmann
Comment/question
I urge you to consider the use of forested land for carbon sequestering. Change practices that create tree plantations which have more wildfire hazards than mature natural forests. Protect streams from logging pollution. Practice selective cutting rather than clear cuts which create obviously loss of topsoil. Avoid use of herbicides especially around populations and water resources. Please regard Oregon's forests as a resource to reduce climate change

Public Comment
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Sent: Thursday, June 24, 2021 3:21 PM
Subject:Comments for the draft Climate Change and Carbon Plan
Name michael murray
Comment/question
DO: Situate Oregon as a global leader in climate-smart forestry and transition Oregon forests from a leading source of emissions to a carbon asset. Identify areas with high carbon storage potential, mature and old growth forests, and stands that have never been logged. Mature and old growth forests store and sequester immense amounts of carbon. Wherever native stands of large trees exist on public lands, they should be protected as climate reserves. Incentivize conservation of mature and old growth forests on private lands. Lengthen logging rotations. Current standard logging rotations undermine the ability of forests to optimize carbon storage. By allowing trees to grow for longer time periods, managers can improve carbon stocks while also increasing timber yield and timber quality. Increase green tree retention on the land during harvest and promote diversity of species as opposed to monoculture plantations. Greater retention of standing trees (especially bigger and older trees) after logging will keep more carbon on site, help to make regrowing forests more resilient to natural disturbance, increase availability of native seed stock for future restoration efforts, and provide for more higher-quality habitat for native species. Focus resources on community-preparedness for climate-influenced wildfires. In Oregon, logging is a far more significant source of greenhouse gas emissions than wildfire, particularly on the west-side of Cascades. Only 5-10% of stored carbon on the landscape is emitted during a wildfire compared to over 50% emitted by logging. DON'T: Exclude cumulative annual emissions from logging operations from climate planning. Studies estimate that annual logging-related emissions average 33 million metric tons of carbon dioxide equivalent per year since 2000. This means that logging is the largest source of emissions in the state. Overestimate carbon storage in harvested wood products. In Oregon, 65% of wood carbon harvested since 1900 has returned to the atmosphere, and only 19% remains in long-term products (Hudiburg et al. 2019). Define biomass as carbon neutral. Woody biomass emits significant amounts of carbon when burned to produce energy. Air pollutants released from biomass power plants disproportionately burden vulnerable communities, including low income and BIPOC communities. Operate in a vacuum. The state should make every effort to collaborate with other agencies and stakeholders in Oregon and beyond working to mitigate and adapt to climate change. Continue on with the status quo! Oregon's decision-makers must take a step back and reevaluate some of the deeply ingrained policies and practices that have defined how Oregon approaches natural resources management. We must take bold action to address the climate and biodiversity crises before us--the impacts of which have and will continue to most heavily burden historically underserved and underrepresented Oregonians.

Public Comment
ODF Draft Climate Change and Carbon Plan

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Sent: Thursday, June 24, 2021 3:20 PM
Subject:Comments for the draft Climate Change and Carbon Plan
Name Dorothy Benson
Comment/question
I am asking that the following be considered and implemented: Situate Oregon as a global leader in climate-smart forestry and transition Oregon forests from a leading source of emissions to a carbon asset. Identify areas with high carbon storage potential, mature and old growth forests, and stands that have never been logged. Mature and old growth forests store and sequester immense amounts of carbon. Wherever native stands of large trees exist on public lands, they should be protected as climate reserves. Incentivize conservation of mature and old growth forests on private lands. Lengthen logging rotations. Current standard logging rotations undermine the ability of forests to optimize carbon storage. By allowing trees to grow for longer time periods, managers can improve carbon stocks while also increasing timber yield and timber quality. Increase green tree retention on the land during harvest and promote diversity of species as opposed to monoculture plantations. Greater retention of standing trees (especially bigger and older trees) after logging will keep more carbon on site, help to make regrowing forests more resilient to natural disturbance, increase availability of native seed stock for future restoration efforts, and provide for more higher-quality habitat for native species. Focus resources on community-preparedness for climate-influenced wildfires. In Oregon, logging is a far more significant source of greenhouse gas emissions than wildfire, particularly on the west-side of Cascades. Only 5-10% of stored carbon on the landscape is emitted during a wildfire compared to over 50% emitted by logging. Please consider the following as well: Exclude cumulative annual emissions from logging operations from climate planning. Studies estimate that annual logging-related emissions average 33 million metric tons of carbon dioxide equivalent per year since 2000. This means that logging is the largest source of emissions in the state. Overestimate carbon storage in harvested wood products. In Oregon, 65% of wood carbon harvested since 1900 has returned to the atmosphere, and only 19% remains in long-term products (Hudiburg et al. 2019). Define biomass as carbon neutral. Woody biomass emits significant amounts of carbon when burned to produce energy. Air pollutants released from biomass power plants disproportionately burden vulnerable communities, including low income and BIPOC communities. Operate in a vacuum. The state should make every effort to collaborate with other agencies and stakeholders in Oregon and beyond working to mitigate and adapt to climate change. Continue on with the status quo! Oregon’s decision-makers must take a step back and reevaluate some of the deeply ingrained policies and practices that have defined how Oregon approaches natural resources management. We must take bold action to address the climate and biodiversity crises before us--the impacts of which have and will continue to most heavily burden historically underserved and underrepresented Oregonians.

Public Comment
ODF Draft Climate Change and Carbon Plan

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Sent: Thursday, June 24, 2021 3:16 PM
Subject:Comments for the draft Climate Change and Carbon Plan
Name Heather Linnemeyer
Comment/question
I would love to stop the clear cutting of our lands both private and BLM and forest service. Replanting should be mandatory for every clear cut that has already been done as well as any future cuts. Do not allow old growth to be cut ever. Please protect our trees and ecosystems. Thank you so much

Public Comment
ODF Draft Climate Change and Carbon Plan

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Sent: Thursday, June 24, 2021 3:13 PM
Subject:Comments for the draft Climate Change and Carbon Plan
Name Dan & Claudia Beausoleil
Comment/question
I SUPPORT YOU DOING THE FOLLOWING: Situate Oregon as a global leader in climate-smart forestry and transition Oregon forests from a leading source of emissions to a carbon asset. Identify areas with high carbon storage potential, mature and old growth forests, and stands that have never been logged. Mature and old growth forests store and sequester immense amounts of carbon. Wherever native stands of large trees exist on public lands, they should be protected as climate reserves. Incentivize conservation of mature and old growth forests on private lands. Lengthen logging rotations. Current standard logging rotations undermine the ability of forests to optimize carbon storage. By allowing trees to grow for longer time periods, managers can improve carbon stocks while also increasing timber yield and timber quality. Increase green tree retention on the land during harvest and promote diversity of species as opposed to monoculture plantations. Greater retention of standing trees (especially bigger and older trees) after logging will keep more carbon on site, help to make regrowing forests more resilient to natural disturbance, increase availability of native seed stock for future restoration efforts, and provide for more higher-quality habitat for native species. Focus resources on community-preparedness for climate-influenced wildfires. In Oregon, logging is a far more significant source of greenhouse gas emissions than wildfire, particularly on the west-side of Cascades. Only 5-10% of stored carbon on the landscape is emitted during a wildfire compared to over 50% emitted by logging. DON'T: Exclude cumulative annual emissions from logging operations from climate planning. Studies estimate that annual logging-related emissions average 33 million metric tons of carbon dioxide equivalent per year since 2000. This means that logging is the largest source of emissions in the state. Overestimate carbon storage in harvested wood products. In Oregon, 65% of wood carbon harvested since 1900 has returned to the atmosphere, and only 19% remains in long-term products (Hudiburg et al. 2019). Define biomass as carbon neutral. Woody biomass emits significant amounts of carbon when burned to produce energy. Air pollutants released from biomass power plants disproportionately burden vulnerable communities, including low income and BIPOC communities. Operate in a vacuum. The state should make every effort to collaborate with other agencies and stakeholders in Oregon and beyond working to mitigate and adapt to climate change. Continue on with the status quo! Oregon's decision-makers must take a step back and reevaluate some of the deeply ingrained policies and practices that have defined how Oregon approaches natural resources management. We must take bold action to address the climate and biodiversity crises before us--the impacts of which have and will continue to most heavily burden historically underserved and underrepresented Oregonians.

Public Comment
ODF Draft Climate Change and Carbon Plan

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Sent: Thursday, June 24, 2021 2:23 PM
Subject:Comments for the draft Climate Change and Carbon Plan
Name Ann Cobban
Comment/question
In Oregon, logging is a far more significant source of greenhouse gas emissions than wildfire, particularly on the west-side of Cascades. Only 5-10% of stored carbon on the landscape is emitted during a wildfire compared to over 50% emitted by logging. While fighting climate change, change needs to happen. Too many Oregon trees are being cut. I believe this needs to stop.

Public Comment
ODF Draft Climate Change and Carbon Plan

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Sent: Thursday, June 24, 2021 1:52 PM
Subject:Comments for the draft Climate Change and Carbon Plan
Name Marie Wakefield
Comment/question
• Situate Oregon as a global leader in climate-smart forestry and transition Oregon forests from a leading source of emissions to a carbon asset. • Identify areas with high carbon storage potential, mature and old growth forests, and stands that have never been logged. o Mature and old growth forests store and sequester immense amounts of carbon. Wherever native stands of large trees exist on public lands, they should be protected as climate reserves. Incentivize conservation of mature and old growth forests on private lands. • Lengthen logging rotations. o Current standard logging rotations undermine the ability of forests to optimize carbon storage. By allowing trees to grow for longer time periods, managers can improve carbon stocks while also increasing timber yield and timber quality. • Increase green tree retention on the land during harvest and promote diversity of species as opposed to monoculture plantations. o Greater retention of standing trees (especially bigger and older trees) after logging will keep more carbon on site, help to make regrowing forests more resilient to natural disturbance, increase availability of native seed stock for future restoration efforts, and provide for more higher-quality habitat for native species. • Focus resources on community-preparedness for climate-influenced wildfires. o In Oregon, logging is a far more significant source of greenhouse gas emissions than wildfire, particularly on the west-side of Cascades. Only 5-10% of stored carbon on the landscape is emitted during a wildfire compared to over 50% emitted by logging. DON'T: • Exclude cumulative annual emissions from logging operations from climate planning. o Studies estimate that annual logging-related emissions average 33 million metric tons of carbon dioxide equivalent per year since 2000. This means that logging is the largest source of emissions in the state. • Overestimate carbon storage in harvested wood products. o In Oregon, 65% of wood carbon harvested since 1900 has returned to the atmosphere, and only 19% remains in long-term products (Hudiburg et al. 2019). • Define biomass as carbon neutral. o Woody biomass emits significant amounts of carbon when burned to produce energy. Air pollutants released from biomass power plants disproportionately burden vulnerable communities, including low income and BIPOC communities. • Operate in a vacuum. o The state should make every effort to collaborate with other agencies and stakeholders in Oregon and beyond working to mitigate and adapt to climate change. • Continue on with the status quo! o Oregon's decision-makers must take a step back and reevaluate some of the deeply ingrained policies and practices that have defined how Oregon approaches natural resources management. We must take bold action to address the climate and biodiversity crises before us--the impacts of which have and will continue to most heavily burden historically underserved and underrepresented Oregonians.

Public Comment
ODF Draft Climate Change and Carbon Plan

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Sent: Thursday, June 24, 2021 1:34 PM
Subject:Comments for the draft Climate Change and Carbon Plan
Name Sydney M Garner
Comment/question
I am concerned about Oregon's current methods of fire prevention and forest management. Please read the attached letter for further details. Thank you, Sydney Garner

Public Comment
ODF Draft Climate Change and Carbon Plan

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Sent: Thursday, June 24, 2021 1:33 PM
Subject:Comments for the draft Climate Change and Carbon Plan
Name Kate Lundquist
Comment/question
In regards to the CCCP, I would hope that Oregon would take into consideration that given how mature and old growth forests are effective at storing and sequestering huge amounts of carbon, that we should prioritize these forests as protected areas and reserves. Further, given the current logging rotations, to increase the ability of Oregon's forests, including managed forests and lumber areas it would be prudent to lengthen the rotations and allow more trees to grow longer. This is especially an area of concern given that, in comparison to the effects of wildfires where only 5-10% of stored carbon on the landscape is emitted during a wildfire, over 50% is emitted by logging. The reality is that Oregon, like the entire West Coast, is facing th inevitability of increased intensity of fire seasons. We're already facing the possible loss of huge swaths of our forest that not only provide lumber, recreation, and habitat for wildlife, but also are an incredibly vital aspect of an intelligent, forward thinking climate plan. Increasing or even continuing the current management of forests and logging is not sustainable or healthy. As you all move forward I hope you will take into consideration how logging operations impact carbon stores alongside their emissions from equipment. The estimations for how much of that carbon stays in wood based products is, as research shows, vastly overestimated in logging and climate plans, which is a huge concern and not an error that we can afford to make. Having grown up in a rural area of Oregon where logging and lumber were main drivers of the economy, I understand the concerns around those impacts. But the economy as an argument cannot ignore that there are active, increasing concerns about how our economy negatively contributes to the health of our lands and the overall climate. We need you all to actively work with conservationists, agencies and organizations working to move towards greener energy sources and cities, and the communities to help us transition from a dependence on lumber within the economy to better managed forests that take into account more than just profit. We have to begin seriously considering what it looks like to move away from our current practices surrounding our forests and logging, and move towards choices that give more weight to the realities of climate change, economies not dependent on industries that contribute to pollution and environmental degradation, and conservation efforts to truly and permanently protect old growth and mature forests. The science is clear and obvious. We make this change now or we as a state will be setting future generations of Oregons up for failure and worse.

Public Comment
ODF Draft Climate Change and Carbon Plan

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Sent: Thursday, June 24, 2021 1:23 PM
Subject:Comments for the draft Climate Change and Carbon Plan
Name Ourania Marcandonatou
Comment/question
We are respectfully asking to situate Oregon as a global leader in climate-smart forestry and transition Oregon forests from a leading source of emissions to a carbon asset. Identify areas with high carbon storage potential, mature and old growth forests, and stands that have never been logged. Mature and old growth forests store and sequester immense amounts of carbon. Wherever native stands of large trees exist on public lands, they should be protected as climate reserves. Incentivize conservation of mature and old growth forests on private lands. Lengthen logging rotations. Current standard logging rotations undermine the ability of forests to optimize carbon storage. By allowing trees to grow for longer time periods, managers can improve carbon stocks while also increasing timber yield and timber quality. Increase green tree retention on the land during harvest and promote diversity of species as opposed to monoculture plantations. Greater retention of standing trees (especially bigger and older trees) after logging will keep more carbon on site, help to make regrowing forests more resilient to natural disturbance, increase availability of native seed stock for future restoration efforts, and provide for more higher-quality habitat for native species. Focus resources on community-preparedness for climate-influenced wildfires. In Oregon, logging is a far more significant source of greenhouse gas emissions than wildfire, particularly on the west-side of Cascades. Only 5-10% of stored carbon on the landscape is emitted during a wildfire compared to over 50% emitted by logging. Please do not exclude cumulative annual emissions from logging operations from climate planning. Studies estimate that annual logging-related emissions average 33 million metric tons of carbon dioxide equivalent per year since 2000. This means that logging is the largest source of emissions in the state. Also please do not overestimate carbon storage in harvested wood products. In Oregon, 65% of wood carbon harvested since 1900 has returned to the atmosphere, and only 19% remains in long-term products (Hudiburg et al. 2019). Please do not define biomass as carbon neutral. Woody biomass emits significant amounts of carbon when burned to produce energy. Air pollutants released from biomass power plants disproportionately burden vulnerable communities, including low income and BIPOC communities. Please do not operate in a vacuum. The state should make every effort to collaborate with other agencies and stakeholders in Oregon and beyond working to mitigate and adapt to climate change. Finally, please do not continue on with the status quo! Oregon’s decision-makers must take a step back and reevaluate some of the deeply ingrained policies and practices that have defined how Oregon approaches natural resources management. We must take bold action to address the climate and biodiversity crises before us--the impacts of which have and will continue to most heavily burden historically underserved and underrepresented Oregonians.

Public Comment
ODF Draft Climate Change and Carbon Plan

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Sent: Thursday, June 24, 2021 1:17 PM
Subject:Comments for the draft Climate Change and Carbon Plan
Name Marilyn Mooshie
Comment/question
Situate Oregon as a global leader in climate-smart forestry and transition Oregon forests from a leading source of emissions to a carbon asset. Identify areas with high carbon storage potential, mature and old growth forests, and stands that have never been logged. Mature and old growth forests store and sequester immense amounts of carbon. Wherever native stands of large trees exist on public lands, they should be protected as climate reserves. Incentivize conservation of mature and old growth forests on private lands. Lengthen logging rotations. Current standard logging rotations undermine the ability of forests to optimize carbon storage. By allowing trees to grow for longer time periods, managers can improve carbon stocks while also increasing timber yield and timber quality. Increase green tree retention on the land during harvest and promote diversity of species as opposed to monoculture plantations. Greater retention of standing trees (especially bigger and older trees) after logging will keep more carbon on site, help to make regrowing forests more resilient to natural disturbance, increase availability of native seed stock for future restoration efforts, and provide for more higher-quality habitat for native species. Focus resources on community-preparedness for climate-influenced wildfires. In Oregon, logging is a far more significant source of greenhouse gas emissions than wildfire, particularly on the west-side of Cascades. Only 5-10% of stored carbon on the landscape is emitted during a wildfire compared to over 50% emitted by logging. DON'T: Exclude cumulative annual emissions from logging operations from climate planning. Studies estimate that annual logging-related emissions average 33 million metric tons of carbon dioxide equivalent per year since 2000. This means that logging is the largest source of emissions in the state. Overestimate carbon storage in harvested wood products. In Oregon, 65% of wood carbon harvested since 1900 has returned to the atmosphere, and only 19% remains in long-term products (Hudiburg et al. 2019). Define biomass as carbon neutral. Woody biomass emits significant amounts of carbon when burned to produce energy. Air pollutants released from biomass power plants disproportionately burden vulnerable communities, including low income and BIPOC communities. Operate in a vacuum. The state should make every effort to collaborate with other agencies and stakeholders in Oregon and beyond working to mitigate and adapt to climate change. Continue on with the status quo! Oregon's decision-makers must take a step back and reevaluate some of the deeply ingrained policies and practices that have defined how Oregon approaches natural resources management. We must take bold action to address the climate and biodiversity crises before us--the impacts of which have and will continue to most heavily burden historically underserved and underrepresented Oregonians. I am SO SICK of seeing more and more clearcuts occuring in my 1/2 hour commute to Grants Pass! It's disgusting!

Public Comment
ODF Draft Climate Change and Carbon Plan

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Sent: Thursday, June 24, 2021 1:07 PM
Subject:Comments for the draft Climate Change and Carbon Plan
Name Lynda Spangler
Comment/question
Thanks for taking my comments... I am a long time resident of Josephine County. There are a few areas of concern that I want to comment on. 1-Reward logging practices that reduce or eliminate clear cutting to increase carbon sequestration. 2-Enforce existing laws regarding riparian zones and herbicide application. Enforcement is vital to reduce water temperatures in tributaries, which cool river temperatures, enhancing our fisheries and promoting cooler land temperatures. Herbicide levels in creeks and rivers must be measured to ensure clean water. The use of herbicide as a forest practice should be re-evaluated. 3-Develop fair tax practices that accurately tax the value of cut logs at the same time reward land owners for allowing longer rotations between cuts and maintaining a sustainable canopy to sequester carbon. 4-No matter what plan is ultimately adopted, care should be taken to equally serve all communities that are impacted by logging. All to often, communities with highly educated wealthy residents get the lion's share of funds for forest restoration and water enhancement. All people deserve to benefit from a healthy environment. Thank you for considering my comments.

Public Comment
ODF Draft Climate Change and Carbon Plan

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Sent: Thursday, June 24, 2021 12:51 PM
Subject:Comments for the draft Climate Change and Carbon Plan

Name Sue Wilson
Comment/question
As the state of Oregon develops a Climate Change and Carbon Plan, please consider the following: * Identify areas with high carbon storage potential, mature and old growth forests, and stands that have never been logged. - Mature and old growth forests store and sequester immense amounts of carbon. Wherever native stands of large trees exist on public lands, they should be protected as climate reserves. Incentivize conservation of mature and old growth forests on private lands. * Lengthen logging rotations. - Current standard logging rotations undermine the ability of forests to optimize carbon storage. By allowing trees to grow for longer time periods, managers can improve carbon stocks while also increasing timber yield and timber quality. * Increase green tree retention on the land during harvest and promote diversity of species as opposed to monoculture plantations. - Greater retention of standing trees (especially bigger and older trees) after logging will keep more carbon on site, help to make regrowing forests more resilient to natural disturbance, increase availability of native seed stock for future restoration efforts, and provide for more higher-quality habitat for native species. * Focus resources on community-preparedness for climate-influenced wildfires. - In Oregon, logging is a far more significant source of greenhouse gas emissions than wildfire, particularly on the west-side of Cascades. Only 5-10% of stored carbon on the landscape is emitted during a wildfire compared to over 50% emitted by logging. AND don't continue on with the status quo!

Public Comment
ODF Draft Climate Change and Carbon Plan

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Sent: Thursday, June 24, 2021 12:50 PM
Subject:Comments for the draft Climate Change and Carbon Plan
Name Juanita Rinas
Comment/question
It is important to situate Oregon as a global leader in climate-smart forestry and transition Oregon forests from a leading source of emissions to a carbon asset. It is imperative to identify areas with high carbon storage potential, mature and old growth forests, and stands that have never been logged. Mature and old growth forests store and sequester immense amounts of carbon. Wherever native stands of large trees exist on public lands, they should be protected as climate reserves. Incentivize conservation of mature and old growth forests on private lands. Opt for selective logging to preserve and promote old growth areas within all areas where trees are harvested for wood products. Increase green tree retention on the land during harvest and promote diversity of species as opposed to monoculture plantations. Greater retention of standing trees (especially bigger and older trees) after logging will keep more carbon on site, help to make regrowing forests more resilient to natural disturbance, increase availability of native seed stock for future restoration efforts, and provide for more higher-quality habitat for native species.Current standard logging rotations undermine the ability of forests to optimize carbon storage. By allowing trees to grow for longer time periods, managers can improve carbon stocks while also increasing timber yield and timber quality. Moving forward we must focus resources on community-preparedness for climate-influenced wildfires. In Oregon, logging is a far more significant source of greenhouse gas emissions than wildfire, particularly on the west-side of Cascades. Only 5-10% of stored carbon on the landscape is emitted during a wildfire compared to over 50% emitted by logging.

Public Comment
ODF Draft Climate Change and Carbon Plan

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Sent: Thursday, June 24, 2021 12:45 PM
Subject:Comments for the draft Climate Change and Carbon Plan
Name Myra
Comment/question
DO: Situate Oregon as a global leader in climate-smart forestry and transition Oregon forests from a leading source of emissions to a carbon asset. Identify areas with high carbon storage potential, mature and old growth forests, and stands that have never been logged. Mature and old growth forests store and sequester immense amounts of carbon. Wherever native stands of large trees exist on public lands, they should be protected as climate reserves. Incentivize conservation of mature and old growth forests on private lands. Lengthen logging rotations. Current standard logging rotations undermine the ability of forests to optimize carbon storage. By allowing trees to grow for longer time periods, managers can improve carbon stocks while also increasing timber yield and timber quality. Increase green tree retention on the land during harvest and promote diversity of species as opposed to monoculture plantations. Greater retention of standing trees (especially bigger and older trees) after logging will keep more carbon on site, help to make regrowing forests more resilient to natural disturbance, increase availability of native seed stock for future restoration efforts, and provide for more higher-quality habitat for native species. Focus resources on community-preparedness for climate-influenced wildfires. In Oregon, logging is a far more significant source of greenhouse gas emissions than wildfire, particularly on the west-side of Cascades. Only 5-10% of stored carbon on the landscape is emitted during a wildfire compared to over 50% emitted by logging. DON'T: Exclude cumulative annual emissions from logging operations from climate planning. Studies estimate that annual logging-related emissions average 33 million metric tons of carbon dioxide equivalent per year since 2000. This means that logging is the largest source of emissions in the state. Overestimate carbon storage in harvested wood products. In Oregon, 65% of wood carbon harvested since 1900 has returned to the atmosphere, and only 19% remains in long-term products (Hudiburg et al. 2019). Define biomass as carbon neutral. Woody biomass emits significant amounts of carbon when burned to produce energy. Air pollutants released from biomass power plants disproportionately burden vulnerable communities, including low income and BIPOC communities. Operate in a vacuum. The state should make every effort to collaborate with other agencies and stakeholders in Oregon and beyond working to mitigate and adapt to climate change. Continue on with the status quo! Oregon's decision-makers must take a step back and reevaluate some of the deeply ingrained policies and practices that have defined how Oregon approaches natural resources management. We must take bold action to address the climate and biodiversity crises before us--the impacts of which have and will continue to most heavily burden historically underserved and underrepresented Oregonians.

Public Comment
ODF Draft Climate Change and Carbon Plan

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Sent: Thursday, June 24, 2021 12:42 PM
Subject:Comments for the draft Climate Change and Carbon Plan
Name Kathleen Detweiler
Comment/question
Please go slowly and think this through... any action has an affect on future generations.

Public Comment
ODF Draft Climate Change and Carbon Plan

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Sent: Thursday, June 24, 2021 12:33 PM
Subject:Comments for the draft Climate Change and Carbon Plan
Name George A Meyer
Comment/question
It's essential that Oregon be a global leader in climate-smart forestry and transition our forests from being a leading source of emissions to a carbon sequestration asset. Areas should be identified that have high carbon storage potential, mature and old growth forests, and stands that have never been logged. Wherever native stands of large trees exist on public lands, they should be protected as climate reserves. Incentivize conservation of mature and old growth forests on private lands and lengthen logging rotations. We need to increase green tree retention on the land during harvest and promote diversity of species as opposed to monoculture plantations. Greater retention of standing trees (especially bigger and older trees) after logging will keep more carbon on site, help to make maturing forests more resilient to natural disturbance, increase availability of native seed stock for future restoration efforts, and provide for more higher-quality habitat for native species. Additionally we need to focus resources on community-preparedness for climate-influenced wildfires. In Oregon, logging is a far more significant source of greenhouse gas emissions than wildfire, particularly on the west-side of Cascades. Only 5-10% of stored carbon on the landscape is emitted during a wildfire compared to over 50% emitted by logging. We must include cumulative annual emissions from logging operations in climate planning. Studies estimate that annual logging-related emissions average 33 million metric tons of carbon dioxide equivalent per year since 2000. This means that logging is the largest source of emissions in the state We should not define biomass as carbon neutral. Woody biomass emits significant amounts of carbon when burned to produce energy. Air pollutants released from biomass power plants disproportionately burden vulnerable communities, including low income and BIPOC communities. Oregon should make every effort to collaborate with other agencies and stakeholders within Oregon and beyond to mitigate and adapt to climate change.

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Sent: Thursday, June 24, 2021 12:30 PM
Subject:Comments for the draft Climate Change and Carbon Plan
Name Kyle Collins
Comment/question
I am writing in regards to the under-development Climate Change & Carbon Plan (CCCP). The Pacific Northwest and Oregon in particular has an opportunity to transition away from decades of short sighted forest management and tackle the ever growing climate crisis which is having real impacts to our forest lands and communities. State agencies must begin to situate Oregon as a global leader in climate-smart forestry and transition Oregon forests from a leading source of emissions to a carbon asset. While traditional forest products will almost certainly play a larger role in our economy, particularly for rural areas, it is time to begin to prioritize value in forests left standing, particularly in areas with a high carbon sequestration potential. Specifically, the state should begin to identify areas with high carbon storage potential, mature and old growth forests, and stands that have never been logged and manage those areas as long term conservation assets. Mature and old growth forests in our region, particularly west of the Cascades, store and sequester immense amounts of carbon. Wherever native stands of large trees exist on public lands, they should be protected as climate reserves. The state should begin to incentivize conservation of mature and old growth forests on private lands, particularly when those forests are located adjacent to waterways that supply downstream communities. Additionally, climate change models show that our region is likely to become hotter, with more frequent droughts, and less snowpack in the coming decades. Intact forests with large trees serve as a buffer against these changing conditions and can help alleviate the impacts of more volatile water supply conditions. For properties which are managed for more traditional forest products such as timber and paper, the state needs to consider lengthening logging rotations. Current standard logging rotations undermine the ability of forests to optimize carbon storage and create dangerous wildfire conditions across broad areas by creating a continual stretch of evenly aged young trees. By allowing trees to grow for longer time periods, managers can improve carbon stocks while also increasing timber yield, timber quality, and reduce the risks of wildfire impacts to poorly managed timber plantations such as the Holiday Farm Fire of 2020. Additionally, increased green tree retention on the land during harvest and promote diversity of species as opposed to monoculture plantations. Oregon is no exception to the general trends seen country wide in reduced wildlife populations and more fragile landscapes which are less likely to support assets valued by our local communities and visitors to our region such as clean water and recreational areas. Greater retention of standing trees (especially bigger and older trees) after logging will keep more carbon on site, help to make regrowing forests more resilient to natural disturbance, increase availability of native seed stock for future restoration efforts, and provide for more higher-quality habitat for native species. Finally, the state must focus resources on community-preparedness for climate-influenced wildfires rather than landscale scale treatments that will generally have a negligible effect on wildfire mitigation. In Oregon, logging is a far more significant source of greenhouse gas emissions than wildfire, particularly on the west-side of Cascades as studies show only 5-10% of stored carbon on the landscape is emitted during a wildfire compared to over 50% emitted by logging, particularly if large standing dead trees are allowed to remain on the landscape in certain instances. The state must exclude cumulative annual emissions from logging operations from climate planning. Studies

estimate that annual logging-related in Oregon emissions average 33 million metric tons of carbon dioxide equivalent per year since 2000. This means that logging is the largest source of emissions in the state. While an important characteristic of harvested wood products which should be acknowledged, the state must not overestimate carbon storage in harvested wood products. In Oregon, 65% of wood carbon harvested since 1900 has returned to the atmosphere, and only 19% remains in long-term products (reference: Hudiburg et al. 2019). Oregon must take a proactive lead in not defining biomass as carbon neutral. Woody biomass emits significant amounts of carbon when burned to produce energy, even without taking into effect the negative outcomes associated with eliminating native forest landscapes to produce energy products primarily for non-local; consumers. Additionally, similar to coal power plants which we have rightly begun to phase out in our country, air pollutants released from biomass power plants disproportionately burden vulnerable communities, including low income communities. Finally, the state should make every effort to collaborate with other agencies and stakeholders in Oregon and beyond working to mitigate and adapt to climate change. Oregon's decision-makers must take a step back and reevaluate some of the deeply ingrained policies and practices that have defined how Oregon approaches natural resources management. We must take bold action to address the climate and biodiversity crises before us--the impacts of which have and will continue to most heavily burden historically underserved and underrepresented Oregonians.

Public Comment
ODF Draft Climate Change and Carbon Plan

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Sent: Thursday, June 24, 2021 12:21 PM
Subject:Comments for the draft Climate Change and Carbon Plan
Name Diana Pace
Comment/question
DO: Situate Oregon as a global leader in climate-smart forestry and transition Oregon forests from a leading source of emissions to a carbon asset. Identify areas with high carbon storage potential, mature and old growth forests, and stands that have never been logged. Mature and old growth forests store and sequester immense amounts of carbon. Wherever native stands of large trees exist on public lands, they should be protected as climate reserves. Incentivize conservation of mature and old growth forests on private lands. Lengthen logging rotations. Current standard logging rotations undermine the ability of forests to optimize carbon storage. By allowing trees to grow for longer time periods, managers can improve carbon stocks while also increasing timber yield and timber quality. Increase green tree retention on the land during harvest and promote diversity of species as opposed to monoculture plantations. Greater retention of standing trees (especially bigger and older trees) after logging will keep more carbon on site, help to make regrowing forests more resilient to natural disturbance, increase availability of native seed stock for future restoration efforts, and provide for more higher-quality habitat for native species. Focus resources on community-preparedness for climate-influenced wildfires. In Oregon, logging is a far more significant source of greenhouse gas emissions than wildfire, particularly on the west-side of Cascades. Only 5-10% of stored carbon on the landscape is emitted during a wildfire compared to over 50% emitted by logging.

Public Comment
ODF Draft Climate Change and Carbon Plan

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Sent: Thursday, June 24, 2021 12:06 PM
Subject:Comments for the draft Climate Change and Carbon Plan
Name Len Greenwood
Comment/question
Time to Reciprocate and protect the forests, not ravage them to bare Earth, then call the replant a forest, which it is NOT! You will witness first hand the drastic effect of climate change this weekend into next week. Our forests cool the land, give us oxygen and at all times, peace and tranquility. Farmed forests are forest lawns, no life but a standing thick lawn ready to be mowed. Please, include the important aspects below and finally, give back to the forests which have surrendered so much to us all. From now on, into the future, for our children and grandchildren, protect and defend all intact remaining forests and never cut an Old Growth tree again. Situate Oregon as a global leader in climate-smart forestry and transition Oregon forests from a leading source of emissions to a carbon asset. Identify areas with high carbon storage potential, mature and old growth forests, and stands that have never been logged. Mature and old growth forests store and sequester immense amounts of carbon. Wherever native stands of large trees exist on public lands, they should be protected as climate reserves. Incentivize conservation of mature and old growth forests on private lands. Lengthen logging rotations. Current standard logging rotations undermine the ability of forests to optimize carbon storage. By allowing trees to grow for longer time periods, managers can improve carbon stocks while also increasing timber yield and timber quality. Increase green tree retention on the land during harvest and promote diversity of species as opposed to monoculture plantations. Greater retention of standing trees (especially bigger and older trees) after logging will keep more carbon on site, help to make regrowing forests more resilient to natural disturbance, increase availability of native seed stock for future restoration efforts, and provide for more higher-quality habitat for native species. Focus resources on community-preparedness for climate-influenced wildfires. In Oregon, logging is a far more significant source of greenhouse gas emissions than wildfire, particularly on the west-side of Cascades. Only 5-10% of stored carbon on the landscape is emitted during a wildfire compared to over 50% emitted by logging. DON'T: Exclude cumulative annual emissions from logging operations from climate planning. Studies estimate that annual logging-related emissions average 33 million metric tons of carbon dioxide equivalent per year since 2000. This means that logging is the largest source of emissions in the state. Overestimate carbon storage in harvested wood products. In Oregon, 65% of wood carbon harvested since 1900 has returned to the atmosphere, and only 19% remains in long-term products (Hudiburg et al. 2019). Define biomass as carbon neutral. Woody biomass emits significant amounts of carbon when burned to produce energy. Air pollutants released from biomass power plants disproportionately burden vulnerable communities, including low income and BIPOC communities. Operate in a vacuum. The state should make every effort to collaborate with other agencies and stakeholders in Oregon and beyond working to mitigate and adapt to climate change. Continue on with the status quo! Oregon's decision-makers must take a step back and reevaluate some of the deeply ingrained policies and practices that have defined how Oregon approaches natural resources management. We must take bold action to address the climate and biodiversity crises before us--the impacts of which have and will continue to most heavily burden historically underserved and underrepresented Oregonians.

Public Comment
ODF Draft Climate Change and Carbon Plan

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Sent: Thursday, June 24, 2021 12:04 PM
Subject:Comments for the draft Climate Change and Carbon Plan
Name Sequoia Miller
Comment/question
We need to see the value of trees as part of nature, valued as living trees and not resources for private profit. Humans are also part of nature, not separate, we need to find our role of how we can support sustainability before we destroy ourselves and the planet. Please do all you can to protect the trees, they have so much value as an intact forest! There is no Planet B! Sequoia

Public Comment
ODF Draft Climate Change and Carbon Plan

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Sent: Thursday, June 24, 2021 11:43 AM
Subject:Comments for the draft Climate Change and Carbon Plan
Name Susan Marie Norman-Jones
Comment/question
Clearcutting Forests with the new machines takes just days now. Trees create an atmosphere that brings the rain. We need the rain. Forests are multi-species, when we tree plant, we only plant one species, this brings hotter fire to the spot and disease. We need to protect the tiny bit of second growth left. From a plane, flying over the coastal range, checkerboards of clearcuts. So very sad. Many creatures depend on trees to live in. Owls, Eagles, birds of all kinds, Bears, Cougars, Deer, and even Frogs and Salamanders to name a few. We are not here alone, we cohabit and have the ability to change our ways. In Genesis of the Bible, God gives us this paradise to protect. Yes, its in the Bible quite a lot about protecting Gods creation. The trouble in Oregon is that private owners have bought up land, and clearcut it, and there is nothing, absolutely no say by the public, because they call it private land. Hancock is one name that does this. Please stop this. Our very lives depend upon it. When we have no rain, the Forests dry up and catch on fire, so the loggers can go in and take every last tree. Loggers need to be called in to a courtroom about their intentions on killing the planet.

Public Comment
ODF Draft Climate Change and Carbon Plan

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Sent: Thursday, June 24, 2021 11:35 AM
Subject:Comments for the draft Climate Change and Carbon Plan
Name Denise Marie Tschann
Comment/question
Thank you for the opportunity to comment. I have lived in Oregon for 42 years and love Oregon with its rich and vast natural resources. My concern has always been our forests, the way they are managed and abused. The scientific fact that our forests are the protectors of our rivers, clean water and healthy air (when they are treated properly) should be used to establish our guidelines. The Oregon Department of Forestry is currently looking to revise the way in which they manage the Forests. Their/our mission is to serve the people of Oregon by protecting, managing, and promoting stewardship of Oregon's forests; to enhance environmental, economic, and community sustainability. I am asking that the new regulations take into consideration the needs of the climate and health of our state overall. Points of concern are:1. the need to lengthen logging rotations. Trees need to grow for longer time periods to improve carbon stocks while also increasing timber yield and timber quality. It is scientifically proven mature and old growth forests store and sequester immense amounts of carbon. Wherever native stands of large trees exist on public lands, I ask that they be protected as climate reserves.2. the need to increase green tree retention on the land during harvest and to avoid clear cuts. When replanting, promote diversity of species as opposed to monoculture plantations. 3. please, do not overlook or exclude the cumulative annual emissions from logging operations from our climate planning. Studies estimate that annual logging-related emissions average 33 million metric tons of carbon dioxide equivalent per year since 2000. This means that logging is the largest source of emissions in the State of Oregon.Sincerely,Denise Tschann

Public Comment
ODF Draft Climate Change and Carbon Plan

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Sent: Thursday, June 24, 2021 11:32 AM
Subject:Comments for the draft Climate Change and Carbon Plan
Name Kathleen Page
Comment/question
Oregon must adopt climate-change responsive forestry practices to mitigate our excessive CO2 emissions. Unlogged forests have high carbon storage potential, let's keep them unlogged. We should incentivize conservation of mature and old growth forests on private lands. Greater retention of standing trees (especially bigger and older trees) after logging will keep more carbon on site, help to make regrowing forests more resilient to natural disturbance, increase availability of native seed stock for future restoration efforts, and provide for more higher-quality habitat for native species. In Oregon, logging is a far more significant source of greenhouse gas emissions than wildfire, particularly on the west-side of Cascades. Only 5-10% of stored carbon on the landscape is emitted during a wildfire compared to over 50% emitted by logging. It is important to NOT exclude cumulative annual emissions from logging operations from climate planning. Studies estimate that annual logging-related emissions average 33 million metric tons of carbon dioxide equivalent per year since 2000. This means that logging is the largest source of emissions in the state. The state should make every effort to collaborate with other agencies and stakeholders in Oregon and beyond while working to mitigate and adapt to climate change. Oregon’s decision-makers must take a step back and reevaluate some of the deeply ingrained policies and practices that have defined how Oregon approaches natural resources management. We must take bold action to address the climate and biodiversity crises before us--the impacts of which have and will continue to most heavily burden historically underserved and underrepresented Oregonians.

Public Comment
ODF Draft Climate Change and Carbon Plan

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Sent: Thursday, June 24, 2021 11:10 AM
Subject:Comments for the draft Climate Change and Carbon Plan
Name Bill O'Brien
Comment/question
With our wilderness confronted with climate change we need to make the wildernesses more resilient by allowing longer growth periods and having control burns to control undergrowth and eliminate if we can clear cut logging of forests.

Public Comment
ODF Draft Climate Change and Carbon Plan

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Sent: Thursday, June 24, 2021 11:03 AM
Subject:Comments for the draft Climate Change and Carbon Plan
Name Christopher Beatty
Comment/question
Oregon can become a blogal leader in climate-smart forestry by transitioning forests to a carbon asset. Mature and old growth forests, and stands that have never been logged should be valued by their ability to sequester immense amounts of carbon. These should be protected as climate reserves and we should incentivize their conservation. Logging rotations should be lengthened, as our current standards undermine the ability of forests to optimize carbon storage. By allowing trees to grow for longer time periods, managers can improve carbon stocks while also increasing timber yield and timber quality. Increase green tree retention on the land during harvest and promote diversity of species as opposed to monoculture plantations. Greater retention of standing trees (especially bigger and older trees) after logging will keep more carbon on site, help to make regrowing forests more resilient to natural disturbance, increase availability of native seed stock for future restoration efforts, and provide for more higher-quality habitat for native species. Focus resources on community-preparedness for climate-influenced wildfires. logging is a far more significant source of greenhouse gas emissions than wildfires and should be treated as a carbon emitter.

Public Comment
ODF Draft Climate Change and Carbon Plan

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Sent: Thursday, June 24, 2021 10:55 AM
Subject:Comments for the draft Climate Change and Carbon Plan
Name Gloria and Bob Ziller
Comment/question
DO: Situate Oregon as a global leader in climate-smart forestry and transition Oregon forests from a leading source of emissions to a carbon asset. Identify areas with high carbon storage potential, mature and old growth forests, and stands that have never been logged. Mature and old growth forests store and sequester immense amounts of carbon. Wherever native stands of large trees exist on public lands, they should be protected as climate reserves. Incentivize conservation of mature and old growth forests on private lands. Lengthen logging rotations. Current standard logging rotations undermine the ability of forests to optimize carbon storage. By allowing trees to grow for longer time periods, managers can improve carbon stocks while also increasing timber yield and timber quality. Increase green tree retention on the land during harvest and promote diversity of species as opposed to monoculture plantations. Greater retention of standing trees (especially bigger and older trees) after logging will keep more carbon on site, help to make regrowing forests more resilient to natural disturbance, increase availability of native seed stock for future restoration efforts, and provide for more higher-quality habitat for native species. Focus resources on community-preparedness for climate-influenced wildfires. In Oregon, logging is a far more significant source of greenhouse gas emissions than wildfire, particularly on the west-side of Cascades. Only 5-10% of stored carbon on the landscape is emitted during a wildfire compared to over 50% emitted by logging. DON'T: Exclude cumulative annual emissions from logging operations from climate planning. Studies estimate that annual logging-related emissions average 33 million metric tons of carbon dioxide equivalent per year since 2000. This means that logging is the largest source of emissions in the state. Overestimate carbon storage in harvested wood products. In Oregon, 65% of wood carbon harvested since 1900 has returned to the atmosphere, and only 19% remains in long-term products (Hudiburg et al. 2019). Define biomass as carbon neutral. Woody biomass emits significant amounts of carbon when burned to produce energy. Air pollutants released from biomass power plants disproportionately burden vulnerable communities, including low income and BIPOC communities. Operate in a vacuum. The state should make every effort to collaborate with other agencies and stakeholders in Oregon and beyond working to mitigate and adapt to climate change. Continue on with the status quo! Oregon's decision-makers must take a step back and reevaluate some of the deeply ingrained policies and practices that have defined how Oregon approaches natural resources management. We must take bold action to address the climate and biodiversity crises before us--the impacts of which have and will continue to most heavily burden historically underserved and underrepresented Oregonians.

Public Comment
ODF Draft Climate Change and Carbon Plan

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Sent: Thursday, June 24, 2021 10:52 AM
Subject:Comments for the draft Climate Change and Carbon Plan
Name Abbey Ash
Comment/question
Please act on climate change! I'm about to graduate from UO and am struggling to see a future if climate change is not addressed. I have already given up on having children and starting a family because of the existential threat of the climate crisis. Thank you, Abbey Ash

Public Comment
ODF Draft Climate Change and Carbon Plan

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Sent: Thursday, June 24, 2021 8:55 AM
Subject:Comments for the draft Climate Change and Carbon Plan
Name Joseph Vaile
Comment/question
Please help situate Oregon as a global leader in climate-smart forestry and transition Oregon forests from a leading source of emissions to a carbon asset. ODF can identify areas with high carbon storage potential, mature and old growth forests, and forests that have never been logged. Mature and old growth forests store and sequester immense amounts of carbon. Wherever native stands of large trees exist on public lands, they should be protected as climate reserves. Incentivize conservation of mature and old growth forests on private lands and lengthen logging rotations. Current standard logging rotations undermine the ability of forests to optimize carbon storage. By allowing trees to grow for longer time periods, managers can improve carbon stocks while also increasing timber yield and timber quality. Increase green tree retention on the land during harvest and promote diversity of species as opposed to monoculture plantations. Greater retention of standing trees (especially bigger and older trees) after logging will keep more carbon on site, help to make regrowing forests more resilient to natural disturbance, increase availability of native seed stock for future restoration efforts, and provide for more higher-quality habitat for native species. Focus resources on community-preparedness for climate-influenced wildfires. In Oregon, logging is a far more significant source of greenhouse gas emissions than wildfire, particularly on the west-side of Cascades. Only 5-10% of stored carbon on the landscape is emitted during a wildfire compared to over 50% emitted by logging. Please don't exclude cumulative annual emissions from logging operations from climate planning. Studies estimate that annual logging-related emissions average 33 million metric tons of carbon dioxide equivalent per year since 2000. This means that logging is the largest source of emissions in the state. Don't overestimate carbon storage in harvested wood products. In Oregon, 65% of wood carbon harvested since 1900 has returned to the atmosphere, and only 19% remains in long-term products (Hudiburg et al. 2019). The state should make every effort to collaborate with other agencies and stakeholders in Oregon and beyond working to mitigate and adapt to climate change. We can't continue on with the status quo! Oregon’s decision-makers must take a step back and reevaluate some of the deeply ingrained policies and practices that have defined how Oregon approaches natural resources management. We must take bold action to address the climate and biodiversity crises before us--the impacts of which have and will continue to most heavily burden historically underserved and underrepresented Oregonians.

Public Comment
ODF Draft Climate Change and Carbon Plan

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Sent: Wednesday, June 23, 2021 11:42 PM
Subject:Comments for the draft Climate Change and Carbon Plan
Name Garlynn Woodsong
Comment/question
The final plan must eliminate the use of the clearcut on all lands in Oregon, to be replaced with a selective harvest regime that uses thinning rather than clearcuts to establish the 20-30 ft optimum mature tree spacing in all managed forests over time, to allow for maximum carbon sequestration with minimum forest fire risk and a sustainable level of timber harvest from thinned logs. We must also consider the value of all forest lands for habitat, flood control through runoff reduction, groundwater recharge, harvest potential of mushrooms and other non-timber products from forest lands, recreation, and for traditional/ceremonial use by tribes. All state forest lands need to be managed for all of these values; the age of managing for maximum short-term timber production, without regard for the fossil fuel resource expenditure required to produce each log, must be brought to an end as quickly as possible.

Public Comment
ODF Draft Climate Change and Carbon Plan

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Sent: Wednesday, June 23, 2021 3:50 PM
Subject:Comments for the draft Climate Change and Carbon Plan
Name Lenny Dee
Comment/question
A robust climate plan that implements Carbon sequestration is essential

Public Comment
ODF Draft Climate Change and Carbon Plan

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Sent: Wednesday, June 23, 2021 11:55 AM
Subject:Comments for the draft Climate Change and Carbon Plan
Name Bill Kucha
Comment/question
First let me praise you for recognizing the carbon sink potential of our western forests. Also I would like you to demarcate which of those stands provide the highest sequestration capacities and work toward protecting them from being logged. In the case of logging please require much longer rotations. Also limit or eliminate aerial spraying. Thank you for your careful environmental considerations as we face climate change. Take JP Morgan's 5.8 billon dollar investment in offset forestry as a signal for Oregon to do the same.

Public Comment
ODF Draft Climate Change and Carbon Plan

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Sent: Wednesday, June 23, 2021 9:48 AM
Subject:Comments for the draft Climate Change and Carbon Plan
Name Sue Craig
Comment/question
Oregon Forests are absolutely necessary to the life of planet earth. Please consider the necessity of keeping them intact for future generations of wildlife and humans. You well know how much they....in natural, uncut conditions, add to the world wild carbon sequestration. It is when we "manage" our forests, by planting plantations, with only a fraction of diversity, and spacing that is normal, that we get into trouble with wildfires, insects infestation, etc. It is hoped by so many that you will finally not be run by the Timber Industry, and that you will finally read and understand the real scientific need to stop the destructive practices that have led to such disasters in our forests. The trees that have grown for eons in our forests, will be truly tested by our increase in temperatures. We, YOU, must think about our future. Thank you Sue Craig

Public Comment
ODF Draft Climate Change and Carbon Plan

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Sent: Thursday, June 17, 2021 4:00 PM
Subject:Comments for the draft Climate Change and Carbon Plan
Name Brian Murray
Comment/question
I am a concerned Oregonian, woodland owner, certified forester w/21 years of forest management expertise, and ISA certified arborist. I have recently reviewed the Draft Climate Change and Carbon Plan. pg. 5 "climate change is an existential problem that deferentially affects vulnerable populations, including people of color & lower income Oregonians" My concern: This plan is calling for substantial behavior changes (pg. 5). I predict that the vulnerable populations will be more negatively impacted by the meta narrative of CCCP, i.e. longer rotations, plantation forests contribute to large fires, thinning is the means to extract resources. Our communities, including the vulnerable will be best served through thriving communities, rather than incentives to promote "natural forests". pg. 8 "natural working lands contain a natural ability to sequester carbon from the atmosphere." My concern: Is the opposite true? Unnatural working lands...(aka private industrial lands) contain an unnatural ability to sequester carbon from the atmosphere. Perhaps, the writers should state it more plainly. Clearcuts are bad for Oregonians and do not store carbon naturally. pg. 9 "Natural resource dependent and traditionally underserved communities are important...and are most at risk from climate change impacts" My concern: Again...ODF Board of Forestry ought to be very careful at taking a policy stance that will likely impact underserved communities negatively. While intentions may be to help, an aim to make "substantial behavior changes" may defeat the good of the people. pg. 10 Climate informed silviculture My thought: Yes, ODF and the private sector have taken a charge on climate adapted seedling/species selection pg. 11 "...large-scale fire suppression over the last century combined w/forest changes from management strategies and objectives, have resulted in higher levels of fuel in forests. These issues are present in, and not limited to, managed natural forests and planted stands." My concern: ODF and the private sector has taken an aggressive stance on fire fighting suppression. It has been a HUGE success! Last seasons fires were abnormal to say the least. Take for instance the Holiday Farm fire. Let's say that all of the McKenzie watershed was "natural forests". I would venture to say that most experts and common folk would agree that those east winds were going to push the fire through any forest until there was a shift in weather or it came to the Oregon Coast! I ask that you carefully look at the successful work of fire suppression! As most of you know, the Liionshead fire was observed and monitor for several days without aggressive fire fighting efforts. My college courses taught me that modern day clearcutting imitates forest fire on the landscape. Has that changed? pg. 12 "Natural resource agencies and stakeholders working together to increase forest resiliency through restoration activities like thinning and prescribed fire will be essential to adapt and maintain functioning forest ecosystems in a changing fire environment." My concern: Is clearcut harvest a viable tool for forest resiliency? pg. 18 "Long-term changes in climate that will continue to occur with rising concentrations of greenhouse gases will continue to affect..." My concern: this is stated like a fact. Consider rewording as an assumption pg. 23 "...means to incentivize the adoption of climate-smart forestry practices" My concern: It is unsettling when the government gets involved w/incentives to help people conform pg. 28 ..."incentivize landowners to defer harvest..." My concern: same as above comment about incentives. I am no expert

in carbon sequestration, fire, climate change, or underserved cultural issues. Thank you for taking a moment to consider some of my concerns.

Public Comment
ODF Draft Climate Change and Carbon Plan

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From: Peter Hayes
Sent: Wednesday, June 16, 2021 8:26 AM
Subject:Comments re CCCP
Attachments: ODF CC and C Plan Comments - Hayes6.11.21.docx
Hi Danny –
Though we have not yet met, I write for two reasons.
I am a family forester in the N. Coast Range and a former member of the Board of Forestry.
1 – Thank you for all of the hard, careful and thoughtful work that you are doing, particularly on the CCCP and the upcoming Forestry Plan for Oregon. It is exciting and heartening to how the ODF approaches seem to be become more detailed and sophisticated.

2 – I am pleased to provide the attached comments on the draft plan. I have submitted them through the form arrangement, but because they are long, I am taking the precaution of sharing them directly with you.
My family and I have strong interests in and commitment to issues related to forests and climate change. Please know that we are ready and happy to try to support your work in any way. As a member of the board of the Forest Stewards Guild, I am active in larger scale wrestling with various dimensions of climate smart forestry, including options for better defining it. Perhaps Guild resources and connections might be helpful to the work you are leading?
I know that Oregon will both contribute to and benefit from these ongoing explorations of what is possible and necessary – on all scales.
Many thanks - Peter Hayes

Public Comment
ODF Draft Climate Change and Carbon Plan

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Sent: Wednesday, June 16, 2021 8:16 AM
Subject:Comments for the draft Climate Change and Carbon Plan
Name Peter S Hayes
Comment/question
ODF Draft Climate Change and Carbon Plan – Comments from Peter Hayes, June 11, 2021: I want to thank staff and board members for their good and hard work on this important project. As a forest owner, former member of the Board of Forestry, and Oregon citizen, I have followed the agency's work on these topics with interest for several decades. I feel that this draft plan reflects significant positive evolution in how the agency is thinking about and approaching these issues. I offer the following comments and suggestions on improvements in the spirit that improvement is always possible and necessary. My comments are distilled and divided into what I see as larger, more important, items and those that are relatively smaller. Larger: 1. Multiple Challenges - While I appreciate the ways that the plan effectively highlights the urgency of action, I am also mindful that climate change is not the only major challenge that demands our attention and action. Because complex problems call for integrated and coordinated responses, the plan would be stronger if it acknowledged and connected to the equally important and interconnected problem of ecological decline. I'm confident that this could be done without compromising the necessary focus on climate change. 2. Singular Focus Forestry – I feel that the plan can and should be refined to make the distinction between forestry with a strong focus on climate and forestry with a singular focus on climate. Experience shows that many interpret "climate smart forestry" to suggest a singular focus. Regardless of what the singular focus might be – growing of wood, provision of water... – history has shown us the dangers of trying to manage forests for a single objective. One option for addressing this is to preface "climate smart" with the qualifier of "ecologically appropriate". 3. Consider the Foundation – There are good reasons for the authors of the plan to state that climate smart forestry needs to be approached as a subset of sustainable forest management. The serious problem with this approach is that after decades of use and debate, it seems that the term sustainable forest management has become so broad and ill defined to become essentially meaningless, at the same time as business-as-usual forestry has not led to increased sequestration and resilience or decreased emissions. What company is not adamant that they demonstrate sustainable forest management and what piece of lumber does not come with some form of a green sticker on it? While the choice to make the connection is understandable, how can your definition be effective if it sits on the foundation of a term that has become dangerously meaningless? The plan's success depends on being forthright in acknowledging that scientific measures show that nearly all current forestry in Oregon falls far short of its potential to both catch and hold carbon and be adaptable to the changing conditions that have begun and will increase. I recommend either being much clearer in specifically defining sustainable forest management or finding and using different and better language. Much is good about the status quo, but the plan must acknowledge and make the case that significant change in practices is needed and possible. 4. Choose Strong Metrics – In the statements of purpose and vision, the bar is set for ODF to be a "leader". I feel that this can and should be replaced with something stronger and more concrete. If I am a leader in a race with very slow or unmotivated runners, isn't my status as leader suspect? Is it possible to use language that is more concise and quantifiable and does not depend on relativity? A less than perfect example might be "demonstrates exemplary commitment

and leadership". Set our sights on our potential and responsibility, not on the work done in other states. 5. Tracking and Analysis – In reviewing the agency's climate-related work stretching back into the '90s, I make the distinction between outputs (work done) and outcomes (measurable impacts on CO2 emissions and forest conditions). While the outputs are important, I feel that the plan would be strengthened if the outputs were acknowledged to be means to the larger ends of tangible outcomes including decreased emissions, increased sequestration and forest resilience. Over the years and in the past year significant progress has been made in clarifying forest climate understandings. More work should be committed to to develop and use more holistic systems for accounting for, tracking, analyzing and reporting all aspects of true forest-related climate impacts – for both the agency and the forest sector. Usefulness of past efforts has been comprised by the choice not to include all links in the carbon chain. EG not including transportation consequences. Smaller: 1. Multiple Outcomes Matter - I understand and respect the multiple reference throughout the plan to the need to insure adequate flow of logs to mills. Given the clearly stated goal to encourage multiple outputs from forests, I wonder why reliable flow of other outputs and outcomes, such as quality drinking water and habitat, are not also called for in company with attention to the flow of wood. Including these multiple priorities would bring the plan more in line with current board and department policies. 2. Tense – Multiple impacts of climate change are already being experienced by those of us who work in Oregon forests. Given this, I am concerned that in many parts of the plan, climate consequences are referred to in the future tense instead of the present. For example where the Problem Statement refers to climate change as a "threat", why not reflect the urgency by accurately referring to climate change in the present tense, while acknowledging that the consequences will become increasingly challenging? 3. Need for More Opportunity and Equity - I appreciate the plan's valuable focus on equity and justice. This applies to BIPOC Oregonians but also to many non-BIPOC Oregonians, particularly low income, rural citizens for whom forest-related employment and opportunity continue to decline. I feel that the plan would be stronger if more detail is included to highlight multiple needs for opportunity in a more nuanced way, without taking away from attention to BIPOC equity issues. 4. Clarify Definitions - The plan will have greater impact if more care is taken to standardize and clarify definitions. An example is the potential to clarify the differences between "climate smart forestry", "climate informed silvaculture" and "climate informed forest management". This reader was tripped up by trying to sort our the relationships between the similar terms. 5. Restoration Goals – While I was pleased to read the focus on "All Lands Restoration", I was surprised and troubled to see the focus limited to wildfire as opposed to expanding the focus more broadly to include topics such as restoration of critical habitat and increasing the forests' resilience and adaptive capacity. 6. Recarbonization of Operations - I feel that the plan should do more to direct the department to work with partners to accelerate the ongoing decarbonization of all forest-related operations. This could include convening an ongoing, cross-sector working group to assess, encourage and track the transitions and the addition of public recognition of leadership and innovation. Progress is being made and the department has a role to play in its acceleration and coordination. 7. Multiple Forms of Energy – The section on "Future Work" could be made stronger by adding to the section on transition to electric power additional focus on non-fossil fuel, liquid fuels such as renewable diesel. Given the daunting challenges of electrification of forest machinery and the current reliance on diesel, focusing on transitional, liquid fuels, that are already being used, seems appropriate and important. The plan should call for innovation both within the agency and through the wider forest sector. An example could be giving preference on State Forest timber sales to bidders who meet standards of transition in energy sources. 8. Simple, Clear Language - I am appreciative of all of the hard

work, care and energy that is reflected in this plan. While is it easy to read in its current form, I feel that more could be done to, wherever possible, focus on using simple, clear and concise language. Doing this will help as many Oregonians as possible understand the plan and choose to put their shoulder to the wheel of turning well intended words into tangible outcomes.

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From: Peggy Lynch
Sent: Monday, June 07, 2021 3:25 PM
Subject:Re: Scheduling Request: ODF Climate Change and Carbon Plan assessment sessions
Thanks for the invite. Josie Koehne will be representing LWVOR. I know she has asked for an "end of month" appt. since she's out of town for part of June. Peggy Lynch, LWVOR
On Thu, Jun 3, 2021 at 4:23 PM Amy Delahanty <delahanty@pdx.edu <mailto:delahanty@pdx.edu> > wrote:

Greetings,

As follow up to Danny Norlander's email to you, Oregon Consensus has recently been engaged by the Oregon Department of Forestry to coordinate and facilitate a series of stakeholder assessment sessions that will help inform the agency's draft Climate Change and Carbon Plan.

These sessions are an opportunity to engage key stakeholders on a series of substantive topic areas related to the draft plan, and will last approximately 2.5 hours. To find the best day/time for the majority of participants, we ask that you please respond to the following When is Good poll by Wednesday, June 9th. The Agency kindly requests that only one member from each organization attend the assessment sessions. There are also opportunities to weigh in through written comments on the draft plan (please visit here) <https://www.oregon.gov/odf/ForestBenefits/Pages/Climate-Change.aspx> , and eventually there will be a public meeting of the Board of Forestry in the Fall.

https://whenisgood.net/drpie78 <https://whenisgood.net/drpie78>

Following feedback on the poll, we will be sending out a calendar invite with Zoom information and a proposed agenda. Thank you and please reach out to Danny Norlander (Danny.NORLANDER@oregon.gov <mailto:Danny.NORLANDER@oregon.gov>) should you have any additional questions.

Sincerely
Amy

---------- Forwarded message ---------
From: NORLANDER Danny *
Date: Wed, May 26, 2021 at 4:29 PM
Subject: ODF Climate Change and Carbon Plan assessment sessions
Hello,

As you may be aware, the Oregon Department of Forestry has been drafting a Climate Change and Carbon Plan that will center climate-smart forestry in planning and operations for the Department. Tomorrow (May 27th) sees the start of the public engagement period for the plan with an informational session (details on the ODF website). Following this, the public will have the opportunity to provide written comments through the website until the end of June.

As an additional engagement avenue, the Department is utilizing a third party (Oregon Consensus) to host assessment sessions where stakeholders may provide constructive feedback and help identify gaps as they consider the drafted plan. We would like to invite you to join one of these assessment sessions and hope that you will be able to attend. The facilitator will provide additional

scheduling information soon. We may request that only one member from each organization attend the assessment sessions.

If you have any clarifying questions on the process please let me know and we can provide additional information.

Thank you,
Danny Norlander
Forest Carbon and Forest Health Policy Analy

Amy Delahanty
Project Manager
Oregon Consensus I Portland State University
<https://drive.google.com/uc?id=1kzr9JW5-DIgyOGhC75FqkKhUlv96l2sB&export=download>

Public Comment
ODF Draft Climate Change and Carbon Plan

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From: Mike Oxendine
Sent: Thursday, June 03, 2021 5:55 PM
Subject:ODF Climate Change and Carbon Plan
Hey Danny,
I see you are asking for only one person per group to provide feedback on this ODF Climate Change and Carbon Plan. I don't know what group I am representing, I serve on two Urban Forestry boards and the PNW-ISA Board as well. I also work for a native tree and riparian restoration company and might have been asked to participate because of my work.
Do you know which group I am representing so that I can figure out if anyone else from that organization is planning to provide feedback?
Cheers,
Mike
From: Erin Isselmann
Sent: Thursday, June 03, 2021 5:15 PM
Subject:RE: ODF Climate Change and Carbon Plan assessment sessions link
Danny,
Thank you for extending the invitation for OFRI to participate in an assessment session regarding the Climate Change and Carbon Plan. I wanted to let you know that Julie Woodward will be OFRI's representative at the assessment session.
Best,
Erin Isselmann
Executive Director
- - - - - - - - - - - - - - -
Oregon Forest Resources Institute

From: NORLANDER Danny *
Sent: Thursday, May 27, 2021 9:29 AM
Subject: ODF Climate Change and Carbon Plan assessment sessions link
My apologies but the link to the ODF page did not make it in my previous email. It is below:
https://www.oregon.gov/odf/forestbenefits/Pages/climate-change.aspx
Thank you,
Danny Norlander
Forest Carbon and Forest Health Policy Analyst

From: NORLANDER Danny * ODF
Sent: Wednesday, May 26, 2021 4:30 PM
Hello,
As you may be aware, the Oregon Department of Forestry has been drafting a Climate Change and Carbon Plan that will center climate-smart forestry in planning and operations for the Department. Tomorrow (May 27th) sees the start of the public engagement period for the plan with an informational session (details on the ODF website). Following this, the public will have the opportunity to provide written comments through the website until the end of June.

Public Comment
ODF Draft Climate Change and Carbon Plan

As an additional engagement avenue, the Department is utilizing a third party (Oregon Consensus) to host assessment sessions where stakeholders may provide constructive feedback and help identify gaps as they consider the drafted plan. We would like to invite you to join one of these assessment sessions and hope that you will be able to attend. The facilitator will provide additional scheduling information soon. We may request that only one member from each organization attend the assessment sessions. If you have any clarifying questions on the process please let me know and we can provide additional information.
Thank you
Danny Norlander
Forest Carbon and Forest Health Policy Analyst

Public Comment
ODF Draft Climate Change and Carbon Plan

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From: Brett Brownscombe
Sent: Thursday, May 27, 2021 4:04 PM
Subject:Fwd: ODF Climate Change and Carbon Plan assessment sessions

Hi Danny--can I get on the email / meeting distribution list for this effort?
Thank you.
Brett Brownscombe
Wild Salmon Center

---------- Forwarded message ---------
From: NORLANDER Danny * ODF
Date: Wed, May 26, 2021 at 3:57 PM
Subject: ODF Climate Change and Carbon Plan assessment sessions
Hello,

As you may be aware, the Oregon Department of Forestry has been drafting a Climate Change and Carbon Plan that will center climate-smart forestry in planning and operations for the Department. Tomorrow (May 27th) sees the start of the public engagement period for the plan with an informational session (details on the ODF website). Following this, the public will have the opportunity to provide written comments through the website until the end of June.

As an additional engagement avenue, the Department is utilizing a third party (Oregon Consensus) to host assessment sessions where stakeholders may provide constructive feedback and help identify gaps as they consider the drafted plan. We would like to invite you to join one of these assessment sessions and hope that you will be able to attend. The facilitator will provide additional scheduling information soon. We may request that only one member from each organization attend the assessment sessions.

If you have any clarifying questions on the process please let me know and we can provide additional information.
Thank you,
Danny Norlander
Forest Carbon and Forest Health Policy Analyst

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From:	Angus Duncan
To:	Jim Kelly; HIRSCH Nancy * ODF
Cc:	NORLANDER Danny * ODF; YOST Andrew * ODF; SHEERAN Kristen * GOV; Cathy Macdonald
Subject:	Submitting Comments to ODF Climate Change and Carbon Draft Plan
Date:	Wednesday, July 07, 2021 12:38:52 PM
Attachments:	AD Comments on ODF Climate Plan_061121.docx

Mr. Kelly and Ms. Hirsch:

I enthusiastically welcome the shift in ODF thinking that has resulted in this Draft Plan. I hope you will take my comments in the spirit of wishing to strengthen and prioritize the policies and directions now in the Plan in order to bring it into alignment with the Governor's Executive Order, the findings of the Oregon Global Warming Commission, and the directions given to us by climate science.

I especially seek your focus, and that of your staff, on refining our understanding of the carbon consequences of current forest harvest practices (Comment #5) so they can be modified to increase carbon acquisition and retention in all of Oregon's forests: state-owned and managed; Federal forests; and privately-owned forestlands.

Thank you for your consideration of the recommendations embedded in my comments. I am happy to engage with you, and with your staff, in the interests of the Department and Board adopting a strong carbon policy that is consistent with prevailing climate science.

Regards,

Angus Duncan

Angus Duncan
Chair Emeritus, Oregon Global Warming Commission
PNW Consultant, Natural Resources Defense Council
503.248.7695

July 6, 2021

For	Jim Kelly, Oregon Board of Forestry Chair
	Nancy Hirsch, Interim Oregon State Forester
From	Angus Duncan, Chair Emeritus, Oregon Global Warming Commission
Subject:	Comments to ODF and BOF re DRAFT Climate Change and Carbon Plan, 2021

I am pleased to offer these comments to the ODF Climate Change and Carbon Plan. I would wish to begin with an appreciation that the Department and the Board of Forestry have now aligned themselves with the Governor, the Legislature, my former home at the Global Warming Commission, and a majority of Oregon citizens in recognizing the central place climate awareness and action now require of us. As the Draft Plan observes, climate change is an existential threat to Oregon's forests, and conversely Oregon's forests have a special place in the state's strategies for turning back that threat while learning to cope with its deeply challenging effects – heat, drought, wildfire, insects and disease, effects on ecosystem species and function.

It is almost 20 years since Governor Kulongoski's Advisory Group on Global Warming first enunciated an Oregon climate policy. Even then there were recommendations – on bio-sequestration; on fire management through fuels reduction; on reforestation – that are picked up in this current ODF draft. It's a pity Oregon's leadership at the time – or most of the time since – didn't seriously undertake the recommended measures in the forests, electricity grid, transportation systems and other venues. It might have avoided more demanding measures today.

And more demanding measures are called for today, in forest carbon policy as elsewhere. These comments will seek to identify where more urgency is warranted than this draft reflects, as well as where the draft recommendations presently align with that urgency. I call your attention especially to Comment #5 on **Carbon Accounting and Baseline Selection**, as a section that begs for a stronger response than the State and ODF have so far afforded it. In particular, the Global Warming Commission, in its 2018 **Forest Carbon Accounting Project Report** document, solicits more accurate and better-informed accounting of carbon consequences of timber harvest when compared to a baseline of leaving a tree (or stand) growing in the forest. In my comments I offer my interpretation of the most recent data and analysis I can access, and the conclusions we are obliged to draw from it. But there are still

white spaces in the data (e.g., substitution effects), as well as evolving conditions that must be tracked for conclusions to remain valid or invite challenges. The Board and the agency should commit to filling in these spaces and providing policymakers with continuous updating to enable policy to evolve.

1. Strengths: The Plan begins appropriately with "Purpose, Vision and Principles" statements that are generally consistent with the state's climate and greenhouse gas positions and plans. We note with particular approval the Principle that

> "Climate change is a serious threat. We have less than a decade to alter behaviors if we want to avoid catastrophic impacts."

This sense of urgency needs to be present in the succeeding goals and recommended actions. It appears to be the case in the Problem Statement section of the Plan which notes in particular the potential and already realized threats to Oregon's forests, forest ecosystems and forest products industries and associated livelihoods, and dismisses "business-as-usual" responses. In the next section (What is Climate-Smart Forestry") the Plan describes, at a 30,000-foot level, what elements comprise such new and urgent forest management practices, and it acknowledges that "Many would argue that most industrial forest management in Oregon today is not to be described as . . . "climate smart.

It is when the Plan seeks to apply elevated principles to on-the-ground practices that it starts to run into difficulties.

2. **Absence of clear priorities**: The Draft Plan specifies this goal:

> "Encourage the just and equitable transition to climate-informed forestry that optimizes climate mitigation and adaptation, while maintaining a sustainable flow of wood products to ensure long-term resource benefits and viability of the forest products industry."

Nothing wrong with this as a goal – these as goals, more correctly – but critically neither here nor elsewhere does the Draft Plan explain what happens when these goals conflict. What has priority? Are there threshold values must be achieved in the first instance before second priority objectives may be served?

The draft correctly asserts that climate considerations must now be incorporated into ODF planning and activities, but by failing to express goals and priorities it avoids the hard questions that arise when objectives lie at cross purposes. It acknowledges the importance of sufficient contemporaneous information development and flow, but does not propose measurable goals (carbon capture and sequestration; percentage of harvested wood in durable product and secure solid waste disposal; stream miles conforming to Clean Water Act temperature standards; etc.) that would establish progress or regress, and prompt adjustments in practices. Historically, State forests were prioritized for producing merchantable wood products. Is that changing? How do board feet, sequestered carbon tons, and intact forest ecosystems get traded off against each other? Will ODF/BoF establish quantifiable standards and minimum threshold values in each of these areas (as the state does for stream temperatures, for example)? If allowable cut on State forests compromises the other values, how will outcomes be determined? How will "Greatest Permanent Value" be redefined, and individual values ranked.

What has priority?

Is ODF prepared to set, and require compliance with, its priorities not only on State forests but also on private forestlands subject to state forest practices rules?

These are some of the hard questions this draft Plan shies away from, visibly and painfully.

3. **Achieving Compliance**: In several places the Plan proposes rising to its climate challenges through "additional voluntary measures . . . encouraging climate-informed forest management practices . . . (and) mechanisms to encourage various forest owners to participate in . . . climate-smart forestry . . . (including) formal recognition, economic incentives . . . and a forest carbon offset and finance programs. While these are important tools, they will be insufficient – as we have discovered with other climate exposures in electric and gas markets, transportation choices and industrial emissions -- *without regulatory backup*. Absent compliance enforcement, there will always be individuals and companies operating with higher discount rates and cash flow imperatives who will decline to contribute, citing competitive pressures or fiduciary obligations to owners and shareholders. Even on State-owned forest lands we have learned that revenue imperatives will override other value considerations (Linn Cty v. State of Oregon, 2019).

It may be that modified goals and priorities could be established for all forests over which ODF has jurisdiction under Oregon's Forest Practices Act (language on p. 22 of the ODF Draft Climate Policy suggests this may be the case). If incorporating climate values into FPA enforcement is justified, perhaps on grounds of protecting long term forest health and productivity, the Department and BoF should act to accomplish this. If more and more specific authority is required, ODF and the BoF should turn to the Legislature. Yes, that body has been as tardy as other state entities in moving to address climate issues. Perhaps another round or two of devastating wildfire will moved the legislative needle however.

4. **"Slowly extend harvest rotations to increase storage while maintaining wood fiber flow to the forest industry."** (Forest Management Planning, p. 24): It is difficult to reconcile this recommendation with the Plan's first Principle, which recognizes that "We have less than a decade to alter behaviors if we want to avoid catastrophic impacts."

It is also true that if ODF and others had begun their adaptation and GHG management efforts beginning 20 years ago when the first state policy on climate was issued, a recommendation for a "slow" adjustment in rotation cycles might have been prudent. But for much of the past two decades Oregon has had mostly warnings – not speculation, but predictions grounded in solid science – of ill effects to come. Only within the last five years have leaders and legislators begun to observe an accelerating train of those impacts: low winter snowpacks, drought, smoke and fire. Kids suffering from aggravated asthma attacks. (See OGWC Biennial Report to the Legislature, 2018, Section 1: Climate Change Comes To Oregon).

Recognizing that there are economic interests that may be inconvenienced or disrupted by an urgent and accelerated response, that's the response that's called for. The state may need or choose to cushion these economic effects – especially where they affect household incomes and job options – but the cushioning cannot be achieved by slowing down the rate of adjustment to onrushing climate realities. I imagine no Board of Forestry Member or Forester would propose, for example, a "slow" response to remediating the effects of the wildfires that ravaged the western canyons of the Cascades last fall. Neither should we accept slow programmatic actions to mitigate emissions and increase sequestration while we adapt our communities to the new climate realities. Companies that earn profits from forest harvest must join in the solutions to climate change and not be holdouts against urgent and timely public policy responses.

Effectively acknowledging the accumulated costs of the state's slow responses to date, the state – and nation – have been compelled to strengthen goals (see Governor Brown's Executive Order 20-04) and accelerate emissions reductions (see 2007 Utility Renewable Portfolio Standard; strengthened by SB 1547 in 2016; and stiffened again with passage of HB 2021 this year). Nationally the Biden Administration is setting a 2030 goal of 100% carbon-free electricity and a zero-emissions economy by 2050.

ODF must pick up the pace.

ODF and the B0F need to reconsider what 2030 goals it must propose for Oregon's forest sector, and what adjusted practices it must embrace, to align with this need for accelerated action. It will have to explicitly consider what part of these remedies can be allocated to incentives and what part to rules. In particular, rotation periods for some significant share – 20% annually? – of harvestable forest tracts should fall immediately under a minimum 80-year rotation schedule, and all such tracts should be in conformance by 2030 or sooner. Economic analysis should be performed to determine the degree and distribution of the economic effects of such a schedule, and State remedies may be needed to cushion the immediate effects. But it is worth recalling that most forests subject to harvest operated under much lengthier such rotations until relatively recently. And recall also testimony to the OGWC that a 70-year old Douglas Fir will have more than twice the recoverable lumber product of two 35 year old such trees.

5. **Carbon Accounting and Baseline Selection:** The OGWC Forest Carbon Accounting Project Report (2018) speaks to the carbon implications of two forest events – wildfire and harvest – that this ODF Plan shies away from. Wildfire is addressed below. With respect to harvest, the OGWC 2018 Report found insufficient information from which to draw clear policy implications, and asks that ODF and USFS develop the necessary data. In particular, the OGWC Report specifies that harvest carbon consequences – and therefore harvest carbon policymaking – begin with an accounting of in-forest carbon loss from tree (and tree stand) removal, including limbing and other harvest debris left in forest or collected and burned in situ. It then seeks carbon loss effects (including direct emissions) at each stage of harvest, transport, processing; allocation of fiber to short-lived (paper; bark and chip mulch; fuel; etc.) and long-lived (construction lumber) products; durations of products before releasing carbon to the atmosphere; disposal of construction lumber in landfills and duration of carbon storage in landfills.

The ODF Harvested Wood Products Carbon Report (2021) was sought to supply these data, and there is much useful information in this Report. Especially it usefully begins in 1906[1], allowing policymakers a nearly complete understanding of the flux cycle: that is, how carbon has moved, over decades, from forest to lumber to waste stream to atmospheric carbon release at each stage.

What it does not do, however, is supply today's carbon flow data as requested by the OGWC, at each step in the harvest and cumulatively, in a form and manner that can inform current public policy.

Herewith I insert my comments on forest carbon harvest effects as submitted to the OGWC, as exactly the same considerations apply and comments should be consistent.

- **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.

  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 from a base case of the live tree and along the way to product, 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 for in-forest harvest biomass residues[2]. Thus an example 1000 ton live tree base case would be reduced to 675 tons at the forest's edge, loaded

[1] . . . relying heavily on the work of Dr. Mark Harmon, retired from Oregon State's Forestry School.

[2] 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.

on a truck for delivery to a mill. Simmons et al (2016)[3] 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 ± 30% (297 tons). The non-durable balance (± 70%) is likely to decompose either immediately (fuel; mulch) or within a time frame (5 to 10 years) that will release significantly greater net quantities of greenhouse gas emissions than are sequestered in durable wood products. 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 al[4] 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.

If this is a reliable split of durable and non-durable, then a second estimate is needed of whether reforestation will defease 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

[3] "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.

[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)

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) moves with all deliberate speed to reduce emissions in other sectors, then we are likely talking about a *comparable* 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 edge[6], 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.*

[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)

[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.

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 does not include other significant carbon effects, both positive and negative[7].

6. **Extend Memorandum of Understanding, Pacific Coast Temperate Forests**: Collaborating with California and Washington to develop information and understanding of forest carbon cycling in westside forests is a valuable step toward the larger goal of aligning forest management and conservation practices all along the Pacific coast. In particular it will be important to track the geographical progress of climate change effects in these tracts as effects multiply. The Pacific Coastal Temperate Rain Forest that extends from California north to Alaska should ultimately be managed consistently for carbon consequences across state and national boundaries. Consistent data and analysis is the first step. Extending the MOU to include British Columbia and Alaska should not be far behind. The forest ecosystem is a unitary geographical fact, to which our management divisions should adapt and not the other way around.

7. **Wildfire**: There are frequent Plan references to the threat of forest wildfire, usually justifying more aggressive management and containment. In particular there are regular references to wildfire "severity[8]." When the OGWC last looked at this question (Forest Carbon Accounting Project Report, 2018), there was evidence of more extensive fires but not necessarily more severe ones. At that time most fires being experienced were rated by the USFS as consistent with historic trends: that is, a small percentage of the forest experienced severe burning, a larger percentage moderate burning and a still larger share light burning, with interspersed stands that largely escaped the fire's effects. At the time the OGWC acknowledged that *ahistoric* burns were being experienced in CA and that OR needed to be concerned about a break in historic burn patterns but that these had not been observed to date. If the 2021 fires departed from such burn patterns, ODF needs to provide the data and analysis to substantiate this in

[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.

[8] "… natural systems and natural working lands are experiencing wildfire severity and extent not observed in the accessible human historic record." Draft Climate Change and Carbon Plan, page 11.

advance of proposing policy changes in response. If ODF is documenting such an historic shift, it must also disaggregate effects of fire suppression from effects of climate change. This is especially so given the historic function wildfire has played in rejuvenating forest ecosystems over time, a function that cannot be casually dismissed.

OREGON FOREST &
INDUSTRIES COUNCIL
SUSTAINABILITY. SCIENCE. INNOVATION. GROWTH.

PO Box 12826
Salem, Oregon 97309
(503) 371-2942
Fax (503) 371-6223
www.ofic.com

June 17, 2021

Oregon Department of Forestry
Attn: Danny Norlander
2600 State Street
Salem, Oregon 97310

RE: Draft Carbon and Climate Change Plan

To Whom It May Concern:

The Oregon Department of Forestry ("the Department") published its Draft Climate Change and Carbon Plan ("CCCP" or "the Plan") in May, 2021, which outlines a number of Forestry Climate Action Goals ("Goals") and Supporting Actions that will be incorporated into the Department's planning in furtherance of the Goals. OFIC would like to provide brief comments regarding a number of items that we agree with in this present draft as well as a number of concerns that we would like to see the Department address as it moves forward with refining the plan for submission to the Board of Forestry.

In general, we agree with the following principles that are outlined in the Plan:

- Recognition of carbon storage in harvested wood products as an integral facet of fully leveraging the climate change mitigation potential of public and private forests, and further recognition of the substitution benefit of high-embodied carbon building materials like dimensional lumber and engineered mass timber products over alternatives like cement and steel.
- Avoiding defining "climate smart forestry" merely as the storage of additional carbon on the forest floor through management practices such as increased rotation ages and larger set-asides.
- Addressing the growing wildfire risk in part through active management strategies such as prescribed burning and fuel-load treatments.
- Prioritizing maintaining forestland as forestland and reforestation and afforestation efforts on burned and understocked lands.

However, we also have a number of concerns, especially with regard to the Supporting Actions outlined in the Plan:

- Though the Plan does discuss voluntary incentives, it also contemplates new private forest management regulations. The Department should focus its efforts exclusively on incentive-based mechanisms that encourage maintaining Oregon's working lands and avoid unnecessary regulatory burdens that hinder the sector's ability to remain operational, or worse, encourage the conversion of working lands to some other use.
- Slowly extending rotation ages on state forestland should not be part of the Department's strategy for state lands. Not only is there strong evidence that reducing harvest and increasing rotation ages may not result in the highest net benefit from forestland, but additional research is needed to address missing data that is essential to quantify the net climate impacts of various

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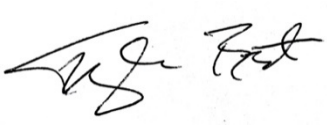
PO Box 12826
Salem, Oregon 97309
(503) 371-2942
Fax (503) 371-6223
www.ofic.com

management strategies, including substitution effects, a complete and realistic life-cycle analysis for harvested wood products, and market leakage. The Department should delay taking definitive action toward changing its management practices on state lands and should prioritize research that addresses this missing or outdated data.

- The Plan should more fully recognize the hazards of utilizing forests primarily as a place to store carbon, long-term, especially as wildfire risk increases in a warming environment. A recognition of increasing wildfire risk should more clearly influence management decisions on public forests. A certain amount of carbon emissions from wildfire can be avoided through widespread forest management.
- The Plan contemplates an altered approach to wildfire, but it does not discuss what the Department already does well in this regard. A comprehensive reimagining of the state's approach to wildfire is not needed, and the Department should work to maintain those aspects of its wildfire strategy that work well.
- The Plan recognizes the need to address climate impacts on vulnerable communities, but it does not address the adverse impacts on vulnerable rural communities, including BIPOC individuals that work within the timber industry, if harvests on public or private land were to decrease.
- The Plan contains no discussion of how the Department can work with its federal counterparts toward the goal of re-opening federal forests to harvest. A business-as-usual approach on federal forests, which encompass nearly 2/3 of the forests in this state, has the potential to undercut any other efforts that the state engages in to manage for healthy, productive forests.

We look forward to working with the Department as it continues to hone this Plan and move forward with a suite of Departmental policies for addressing climate change and unlocking the full potential of our state's public and private forests in this fight. We hope that you will consider our comments as you craft the next revision to the Plan for submission to the Board of Forestry in September. If you have any questions about any of the foregoing comments, please do not hesitate to reach out.

Sincerely,



Tyler Ernst
Policy Counsel, Manufacturing & Resources
Oregon Forest & Industries Council
O: (503) 586-1245 | C: (517) 898-0557 | tyler@ofic.com