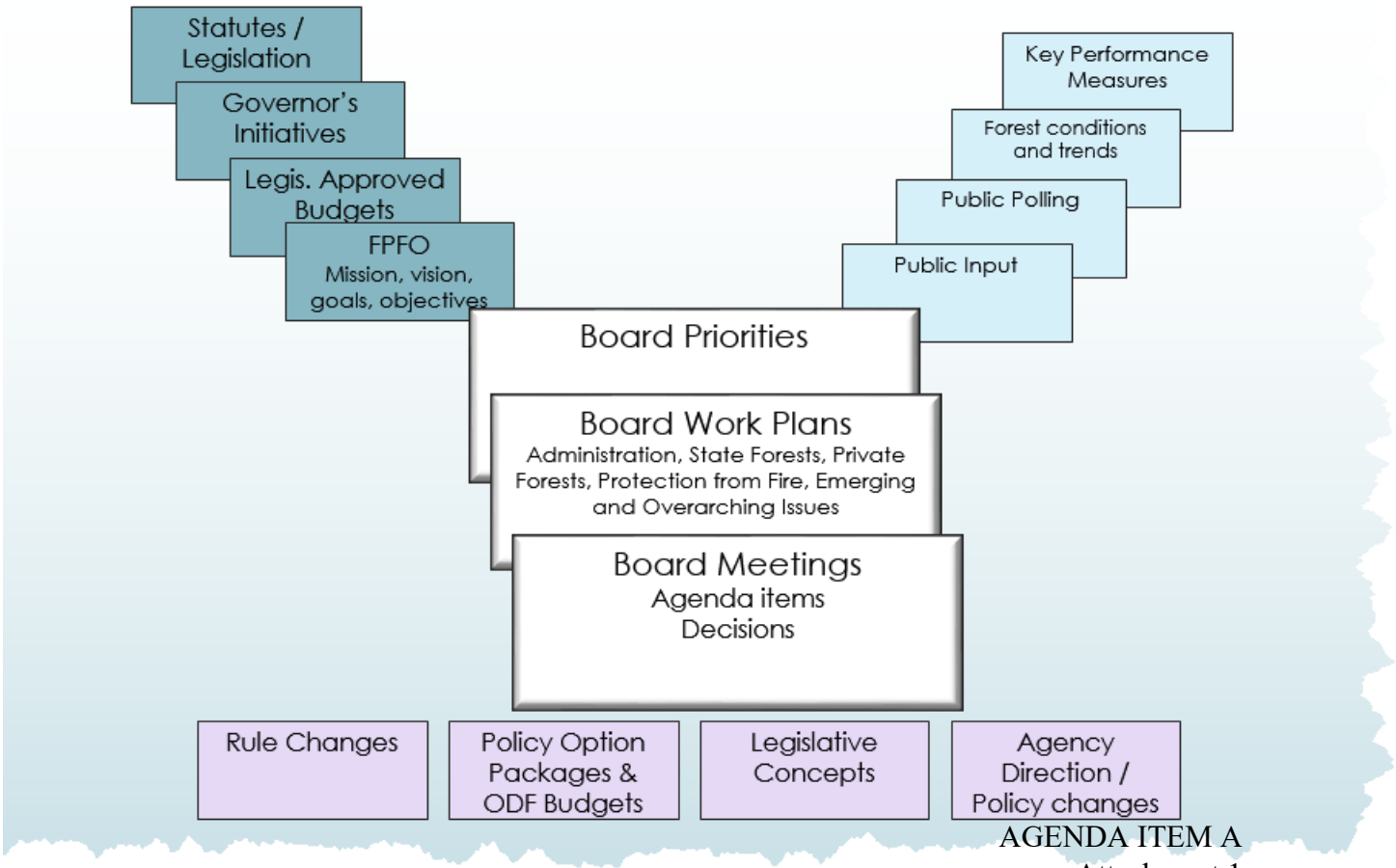
Board of Forestry
Midcourse Work Plan Review

Board of Forestry Planning

Board planning is driven by board priorities which are informed via multiple inputs...

- Forestry Program for Oregon, Budgets, Statutes, Governor Initiatives, Public Interests, Resource Conditions, and other Factors.

Together these establish the Board's Priorities which inform Division Work Plans.



Work Plan Process

The Board and Department's work plan process is designed to create a systematic way for the Board to identify issues and set priorities.

- Focus the Board's and Department's efforts on the most important issues.
- Link the biennial budget where resources are identified and allocated within the Department.
- Provide efficient allocation of staff and resources among multiple demands.
- Provide public awareness and a better understanding of what and when to provide input.

Work Plan Timeline

September (odd years) – Staff presents information to help the Board take stock of the current situation surrounding forest issues.

October (odd years) – Planning Retreat – Board and Department discuss work plan priorities.

November (odd years) – Board sets a list of priority issues.

January (even years) – Department staff provides an overview of draft work plans.

March (even years) – Board approves two year work plan.

October (even years) **–** Retreat – Midcourse work plan review and recommended changes.

Current Work Plans

March 4, 2020 the Board of Forestry approved 2020-2021 work plans.

- The present work plan mid-course review and changes were expected to occur at the October 2020 Board retreat, but as this was cancelled, the mid-course review is occurring at the January 2021 Board meeting.

- With this item, Division Chiefs will provide work plan mid-course reviews discussing work plan status and changes for 2020-2021.

- Division Chiefs will provide proposed modifications for review and approval by the Board as each work plan necessitates.

Division and Program Work Plans

Work plans are ordered according to plans in which changes have occurred. Subsequent plans have limited to no changes.

1. Private Forests work plan
2. Climate Change work plan
3. Overarching Issues work plan
4. State Forests work plan
5. Fire Protection work plan
6. Administrative work plan

Work plans are coded accordingly to reflect items and status.

Matrix Key:
TBD – To be determined
i – Informational item
d – Preceding Decision item
D – Final Decision item

Color Key:
Green – Milestone Completed
Yellow – Milestone Change
Magenta – Milestone Tabled or Stopped

Private Forests Division Work Plan	2020					2021							2022	
	Apr	Jun	Jul	Sep	Nov	Jan	Mar	Apr	Jun	Jul	Sep	Nov	Jan	Mar
Issue: Water Quality Topics														
Milestones														
❖ Siskiyou Streamside Protections Review	i	i	D	i										
❖ Western Oregon Streamside Protections Review				i							i			
❖ ODF-DEQ Sufficiency Review Alignment		i	i	i	i		i		i		i			
Issue: Forest Practices Act (FPA) Rule Policy Review														
Milestones														
❖ Specified Resource Sites Rule Analysis: Marbled Murrelet					i									
❖ Specified Resource Sites Rule Analysis: Coho Salmon			i						i					
❖ Specified Resource Sites Policy Review							i							
❖ Implementation Study: Review				i							i			
❖ Implementation Study: Reforestation											i			
❖ Senate Bill 1602 Implementation (as needed)					D			i						
Issue: Implement Legislative Direction														
Milestones														
❖ HB 3013 Wildlife Food Plots			D											
Issue: Board Updates														
Milestones														
❖ Operator of the Year						i							i	
❖ Committee for Family Forestlands Report and Appointments			D							D				
❖ Forest Practices Agency Meeting Report							i							i
❖ Forest Health Report				i							i			
❖ Forest Practices Monitoring Report				i							i			
❖ Urban and Community Forestry Program Update				i	i						i			
❖ Non-industrial Forest Landowner Program Update				i							i			
❖ Regional Forest Practices Committee Appointments				D		D					D			

Climate Change and Forest Carbon Work Plan	2020					2021							2022	
	Apr	Jun	Jul	Sep	Nov	Jan	Mar	Apr	Jun	Jul	Sep	Nov	Jan	Mar
Issue: Assess Statutory Authority														
Milestones														
• Identify primary questions of interest		d												
• Request DOJ analysis			d											
• Receive legal analysis and report					i									
Issue: Establish Climate Change and Forest Carbon Strategic Goal														
Milestones														
• Review Goal G in Forestry Program for Oregon		d												
• Determine public input for goal revision		d												
• Conduct public input														
• Board workshop to revise goal				i										
• Establish new goal										TBD				
Issue: Analyze Existing Policies to Achieve Outcomes in face of Climate Change														
Milestones														
• Establish sequence to conduct full analysis of statutes and administrative rules			d											
• Identify priority for initial analysis			i	d										
• Interim report on initial analysis							TBD							
• Final report on initial analysis										TBD				
• Initiate second priority analysis										TBD				
Issue: Identify Gaps in Current Policy														
Milestones														
• To be determined following assessment of statutory authority and analysis of existing policies												i		
Issue: Mitigation and Adaptation Efforts														
Milestones														
• Harvested Wood Products and Sawmill Energy Report				~~i~~	i									
• Annual Update on Mitigation and Adaptation Efforts				~~i~~	i									
• Scenario Planning Model Review								TBD						
• Update on Scenario Planning with focus on Management and Utilization Strategies										i				
• ODF Climate Change Carbon Plan						i								

Overarching Issues Work plan	2020					2021							2022	
	Apr	Jun	July	Sep	Nov	Jan	Mar	Apr	Jun	July	Sep	Nov	Jan	Mar
Revise Board's Strategic Plan -														
Strategic Plan Values Statements														
• Review current Value statements		i					**i**							
• Determine public input process for revision of Values		d					**d**							
• Conduct public input														
• Adopt new Values statements for the Board's strategic plan				i	D						**i**	**D**		
Climate Change Goal														
• Revise Goal G relating to climate change	*(see Climate Change and Forest Carbon work plan)*													
Dashboard for Strategic Plan														
• Review previous indicators and current status				i										
• Develop list of potential dashboard measures						d								
• Review potential sources and time responses of underlying data for potential measures								i						
• Adopt Dashboard										D				
Revise Remainder of Strategic Plan														
• Establish process to complete revision									i			D		
Ecosystem Services Valuation														
• Review potential uses and determine priority policy use of Ecosystem Services (e.g., future 714 Analyses, State Forest Management Plan, etc.)			i		d									
• Board review and selection of services to include in future analyses, including assessment of feasibility			i			i			D					
• Methodology Development										TBD when specific policy analysis requires valuation				
• Valuation														

State Forests Division Work Plan	2020						2021							2022	
	Apr	Jun	Jul	Sep	Oct	Nov	Jan	Mar	Apr	Jun	Jul	Sep	Nov	Jan	Mar
Issue: Western Oregon Habitat Conservation Plan (including a companion FMP)															
Milestones															
❖ BOF progress updates	i		i							i					
❖ Administrative Draft HCP with Decision to continue into NEPA process					d										
❖ Status of HCP and NEPA										i					
❖ If continuing to pursue an HCP - Begin Companion Western Oregon FMP					d					i					
❖ Rulemaking update on Companion FMP													i		
❖ Rulemaking begins on companion FMP															d
Issue: Santiam State Forest Restoration and Recovery															
Milestones															
Forest closure rulemaking								D							
Santiam State Forest Restoration Update								i							

Fire Protection Division Work Plan	2020					2021							2022	
	Apr	Jun	Jul	Sep	Nov	Jan	Mar	Apr	Jun	Jul	Sep	Nov	Jan	Mar
Issue: Annual and Ongoing Topics														
Milestones														
❖ Approve Forest Protection District and Rangeland Protection Association Annual Budgets		**D**							**D**					
❖ Review Letters from FPA's to State Forester		**i**							**i**					
❖ Fire Season Reports		**i**	**i**	**i**	**i**				**i**	**i**	**i**			
❖ Smoke Management Annual Update							**i**							**i**
❖ Appointment for Emergency Fire Cost Committee **(As Needed)**														
❖ Approve Forest Protection Association Agreements **(As Needed)**														
❖ Rangeland Protection Association Formation **(As Needed)**														
Issue: Evolving Topic														
Milestones														
❖ Governor's Council on Wildfire Response														

Administrative Work Plan	2020					2021							2022	
	Apr	Jun	Jul	Sep	Nov	Jan	Mar	Apr	Jun	Jul	Sep	Nov	Jan	Mar
Issue: Development of Legislative Concepts														
Milestones														
❖ Review proposed guiding principles, list of potential concepts													i	
❖ Approve the legislative concepts for submission to DAS														D
Issue: Agency Budget Development and Request														
Milestones														
❖ Review proposed guiding principles and provide direction														
❖ Review and provide input on draft budget concepts	i													
❖ Review and provide input on final budget concepts		i												
❖ Approve the 2021-23 Agency Request Budget and approve in concept the Board letter of transmittal to the Governor			D											
Issue: Board Governance Best Practices Self-Evaluation														
Milestones														
❖ Review the annual Board governance self-evaluation criteria						i							i	
❖ Review proposed changes to criteria, approve and initiate self-evaluation process	D							D						
❖ Approve summarized evaluation report and metrics of Board governance best practices criteria			D							D				
Issue: Key Performance Measures (KPM) Review														
Milestones														
❖ Review the Annual Performance Progress Report summarizing the agency's 14 key performance measures				i						i				
Issue: Financial Dashboard														
Milestones														
❖ Financial Dashboard Projected Design Review			i											
❖ Financial Dashboard Presentations			i			i	i	i	i	i	i	i	i	i
❖ Annual Approval of the State Forester's Financial Transactions							D							D
❖ Fire Finance Update														
Issue: Human Resources Dashboard														
Milestones														
❖ Human Resources Dashboard		i							i					
Issue: Facilities Capital Management Plan														
Milestones														
❖ Facilities Capital Management Plan		i							i					
Issue: Public Information Request Report														
Milestones														
❖ Public Information Request Report		i							i					

Staff Recommendation and Questions

Staff Recommendation: Accept Division work plan changes as identified.

Audubon Society of Lincoln City
PO Box 38
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January 7, 2021

Oregon Board of Forestry

We are disappointed in ODF's staff decision to pause all work on the Board of Forestry's Goal G. The Labor Day fires are but the most recent example of climate change as an existential crisis, not something that should perhaps be addressed at a more convenient time. Forests are the single greatest natural tool available to capture and store carbon. Land use decisions that reflect this reality should have been made decades ago but to stall them now is unconscionable. Putting off work on Goal G and other climate change activities "until we have a full board" is unacceptable. Failing to fill seats on OBF is a stalling tactic intended to benefit industrial timber interests so that business as usual may continue unchecked. Using the empty seats then as an excuse to put off doing the necessary work is intentional failure.

It is time for ODF to accept reality and truly make climate change and carbon a primary consideration in every decision and an underlying principle at the heart of every action plan. Board members have made it clear that this is their expectation. Learning then that State Forest Division and ODF Climate Change personnel "have not had that conversation" as they move quickly into salvage logging operations in the Santiam State Forest is an egregious example of continuing to put economic issues above all else. Economics over the environment is exactly what got us into the climate crisis in the first place.

We call on the Oregon Board of Forestry to exercise its leadership and direct the department to work, really work in collaboration with other state agencies on addressing climate issues.

Respectfully,

Joseph Youren
Conservation Action Committee
Audubon Society of Lincoln City

TO: Oregon Board of Forestry
CC: Oregon Global Warming Commission, Oregon Department of Forestry Staff
DATE: 1/30/2021
RE: Written Testimony

Agenda Item: No. 2
Work Plan: Strategic Planning / Work Plan
Revision of climate change work plan
Topic: 2020-2022 Board Work Plans Review and Revision
Presentation Title: Division Work Plan Review
Date of Presentation: January 6, 2021

Thank you for the opportunity to submit written testimony ahead of the Board of Forestry (Board)'s January 6, 2021 meeting. We, the undersigned organizations, are participants in the Oregon Climate Action Plan (OCAP) coalition's forest policy sub-table, tasked with coordinating stakeholder advocacy around implementation of Governor Brown's Executive Order 20-04 (EO 20-04). Our submission therefore focuses on Agenda Item No. 2 of this meeting, regarding the Board's work plan.

Specifically, this testimony focuses on the following aspect of the Board's work plan:

> *"Commensurate with the work plan item relating to the analysis of statutory authority, the plan entails a review and revision of Goal G in the Forestry Program for Oregon. Goal G reflects the Board's carbon and climate interests through the Forestry Program for Oregon. Revisiting this goal allows for the integration of new scientific information and contemporary values of the Board to guide the analysis of Departmental policies."*[1]

Background

The devastation wreaked by last September's wildfires is only the latest sign that the climate crisis is deepening in our forests, lands, waters and communities. While wildfire is an important component of many ecosystems, climate change, old-growth logging, and a century of misguided fire suppression have superseded natural factors in increasing the drying of our landscapes and communities making them more susceptible to extreme fire conditions. It is critical that Oregon do everything it can to slow the direst impacts of climate change and safeguard against ongoing climate impacts. This requires a re-thinking of many of our land-management practices, especially the management of our carbon rich temperate forest ecosystems.

[1] Agenda item 2. See, e.g. attachment 2, page 2 of 5. https://www.oregon.gov/odf/board/bof/20210106-bof-agenda.pdf

The Oregon Department of Forestry's (ODF) response to the directives in EO 20-04 could enable the state to harness the globally significant carbon sequestration and storage potential of Oregon's forests, and restore the ecological health and climate resiliency of our state's landscapes, the fate of which is intertwined with that of our forests and climate. It is essential that the greenhouse gas (GHG) emissions reduction targets stipulated in EO 20-04, as well as the directive to "Prioritize actions that will help vulnerable populations and impacted communities adapt to climate change impacts,"[2] are embedded in all aspects of agency planning. This necessarily includes revision of the Forestry Plan and specifically Goal G.

Revision of Goal G, however, is not and should not be a substitute for meaningful policy. While an updated climate change goal can set an intention for Oregon to be a world leader in climate-smart forest management and carbon sequestration, this must be followed-up with concrete agency actions to protect our forest ecosystems and communities for present and future generations of Oregonians.

The Best-available Science: How Oregon's Forests Can Address Climate Change

The two biggest steps Oregon can take to confront the global threat of climate change are to protect and grow its forests to sequester and store more carbon on the landscape, and reduce its greenhouse gas emissions from logging — its largest source of carbon emissions.

A growing scientific consensus has developed around two aspects of Oregon's ecosystems: (1) that they have an incredible potential for sequestering and storing atmospheric carbon; (2) that this potential is being significantly underutilized due to outdated forest management practices.

In its draft biennial report, the Oregon Global Warming Commission cites several of the leading studies in support of these propositions, which we summarize and supplement below:

- Diaz et al. 2018: Expanded 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. The combination of forest practices required for FSC certification always stored more carbon than business-as-usual.
- Fain et al. 2018: On private forest lands west of the Cascades, extending harvest rotations,[3] maximizing utilization of harvested biomass, focusing on production of durable and long-lived wood products, and altering harvest practices to retain more live trees on-site, all could result in significant net carbon gains.

[2] EO 20-04. https://www.oregon.gov/gov/Documents/executive_orders/eo_20-04.pdf
[3] 80-120 years depending on assumptions about product longevity and substitution.

- Law et al. 2018: Reforestation, afforestation, lengthened harvest cycles on private lands, and restricting harvest on public lands in Oregon is projected to increase net ecosystem carbon balance by 56% by 2100, with the latter two actions contributing the most.
- Harmon 2019: Half of harvested carbon is emitted to the atmosphere almost immediately after logging.
- Hudiberg et al. 2019: 65% of the forest carbon removed by logging Oregon's forests in the past 115 years has been returned to the atmosphere, just 19% is stored in long-lived products and 16% is in landfills.
- Houghton and Nassikas 2018: Letting forests grow and halting land conversions would bring carbon dioxide removal rates closer to current emission rates globally
- Graves et al. 2020: Changes in forest-based activities including deferred timber harvest, riparian reforestation, and replanting after wildfires have the highest GHG reduction potential (76 to 94% of the overall potential annual reductions) among natural climate solutions (i.e., changes in land management, ecosystem restoration, and avoided conversion of habitats) in Oregon.
- Mildrexler et al. 2020: Large-diameter (≥21″ dbh) trees in eastside Oregon forests store disproportionately large amounts of carbon.

Based on a review of these studies and others, we have established a set of principles for developing climate-smart forest policy.

OCAP Forest Table's Guiding Principles for Climate-Smart Forest Policy

1. Use the best available science[4] for all forest management decisions, and focus on climate solutions that are durable and within each agency's control. Agencies should ensure all studies referenced during the decision-making process come from reputable academic and research institutions, have been subject to rigorous peer review, and that the funding for referenced studies remains independent of timber industry interests.
2. Ensure that vulnerable, disadvantaged and other impacted communities, including communities from geographic regions with a population largely composed of individuals who are low income, very low income, or persons of color, are given fair and equal access to the decision-making process.
3. Ensure that equity, justice and inclusion are considered alongside desirable environmental outcomes in any forest policy, and that agencies apply a climate and equity lens to budget and resource allocation requests.

[4] To achieve high-quality science, scientists should conduct their studies using what is known as the scientific process, which includes the following elements: a clear statement of objectives; a conceptual model, which is a framework for characterizing systems, making predictions, and testing hypotheses; a good experimental design and a standardized method for collecting data; statistical rigor and sound logic for analysis and interpretation; clear documentation of methods, results, and conclusions; and peer review. See, e.g. https://www.fws.gov/wafwo/fisheries/Publications/Fisheries3109.pdf

4. Ensure forest management policies account for lifecycle greenhouse gas emissions. For example, policymakers have argued in the past that biomass is a carbon neutral fuel source, but the scientific literature demonstrates that near-term emissions from burning biomass undercut the validity of this argument, and can directly hinder climate change mitigation efforts.[5]
5. Ensure forest management policies promote both near-term and long-term ecological health. Climate-smart forest management[6] should not be adopted as "one-size-fits-all" practices, but should be tailored for each climate and geographic sub-region. For example, some management, such as ecologically appropriate prescribed fires and thinning of small-diameter trees in Oregon's dry forests may result in near-term emissions, but if done correctly could ensure ecological health[7] and better climate resilience in the long-term.
6. Ensure that the carbon benefits of any policy recommendation are quantifiable and account for both direct and indirect impacts to the carbon pool, including soil carbon, carbon in dead biomass, carbon in wood products and waste material from logging and processing.
7. Ensure that forest management practices optimize net carbon sequestration, storage, and stocks. Efforts to enhance carbon sequestration and grow Oregon's forest carbon sinks should be compatible with other ecological values, such as clean water, watershed protection and biodiversity conservation. Management practices must also benefit public health values such as clean drinking water, clean air and community safety from landslides and flooding. Agency cost-benefit analyses and other decision-making processes should incorporate a social cost of carbon that reflects Oregon's high

[5] See, e.g. Mark Jacobson, 2014. Effects of biomass burning on climate, accounting for heat and moisture fluxes, black and brown carbon, and cloud absorption effects. Journal of Geophysical Research-Atmospheres. https://doi.org/10.1002/2014JD021861

[6] Climate-smart forest management integrates the challenges and opportunities of climate change mitigation and adaptation into forest policy, planning and practices, aiming to optimize carbon storage and sequestration in a manner that accounts for the worsening impacts of climate change. See, e.g. Stein, B.A., P. Glick, N. Edelson, and A. Staudt (eds.). 2014. Climate-Smart Conservation: Putting Adaptation Principles into Practice. National Wildlife Federation, Washington, D.C. https://www.nwf.org/~/media/PDFs/Global-Warming/Climate-Smart-Conservation/NWF-Climate-Smart-Conservation_5-08-14.pdf, 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, OGWC 2018 Forest Carbon Accounting Project Report 2018. Keep Oregon Cool, Oregon Global Warming Commission. https://static1.squarespace.com/static/59c554e0f09ca40655ea6eb0/t/5c2e415d0ebbe8aa6284fdef/1546535266189/2018-OGWC-Biennial-Report.pdf

[7] Although ecosystem health cannot be defined precisely, ecologists have identified a number of specific components that are important in this concept. These include the following indicators: (1) an ability of the system to resist changes in environmental conditions without displaying a large response (this is also known as resistance or tolerance); (2) an ability to recover when the intensity of environmental stress is decreased (this is known as resilience); (3) relatively high degrees of biodiversity ; (4) complexity in the structure and function of the system; (5) the presence of large species and top predators; (6) controlled nutrient cycling and a stable or increasing content of biomass in the system; and (7) domination of the system by native species and natural communities that can maintain themselves without management by humans.

vulnerability to climate change (i.e., assume both a social cost of carbon at the high-end of estimates and a low-range discount rate).[8]

These principles are consistent with Governor Brown's Executive Order 20-04 and emphasize an equity and science based-decision making framework as the Board develops near-term policy solutions to the threat of climate change. The following section offers specific policy recommendations for the Board as it moves forward with revision of Goal G.

Policy Recommendations for Revision of Strategy G

As noted in the Board's "Report on Proposed Actions for Executive Order No. 20-04," the Board intends to focus on revising the specific objectives within Goal G with opportunities for public engagement.[9]

Currently, Goal G states that ODF will work to: *"Improve carbon sequestration and storage and reduce carbon emissions in Oregon's forests and forest products."*[10] While this is a promising starting point, the Board is missing a broader opportunity to protect and expand upon Oregon's globally significant carbon stores in a manner that positions the state as a world leader in science-based natural climate solutions. Instead, the goal should read "*Establish the state of Oregon as a world leader in climate-smart forest management and significantly increase carbon storage and sequestration*[11] *in Oregon's forests.*" If defined correctly, climate-smart forest management[12] can encompass the full scope of challenges and opportunities associated with climate change mitigation and adaptation. The Board should update forest policy, planning and practices to optimize carbon storage and sequestration in a manner that accounts for the worsening impacts of climate change and enables Oregon's forest managers to grow the state's natural carbon sinks as much as possible in order to maximize sequestration in an ecologically appropriate manner.

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[8] See, e.g. Institute for Policy Integrity 2020. https://policyintegrity.org/documents/Policy_Integrity_EO_20-04_report_comments_2020.06.15.pdf

[9] See, e.g. Oregon Department of Forestry 2020. Report on Proposed Actions for Executive Order No. 20-04. https://www.oregon.gov/gov/Documents/2020%20ODF%20EO%2020-04%20Implementation%20Report.pdf

[10] See, e.g. Oregon Board of Forestry 2011. Forestry Program for Oregon — A Strategy for Sustaining Oregon's Public and Private Forests. https://www.oregon.gov/ODF/Board/Documents/BOF/fpfo_2011.pdf

[11] See, e.g. USGS What is carbon sequestration? Excerpt: "Carbon sequestration is the process of capturing and storing atmospheric carbon dioxide." https://www.usgs.gov/faqs/what-carbon-sequestration?qt-news_science_products=0#qt-news_science_products

[12] Climate-smart forest management integrates the challenges and opportunities of climate change mitigation and adaptation into forest policy, planning and practices, aiming to optimize carbon storage and sequestration in a manner that accounts for the worsening impacts of climate change. See, e.g. Stein, B.A., P. Glick, N. Edelson, and A. Staudt (eds.). 2014. Climate-Smart Conservation: Putting Adaptation Principles into Practice. National Wildlife Federation, Washington, D.C. https://www.nwf.org/~/media/PDFs/Global-Warming/Climate-Smart-Conservation/NWF-Climate-Smart-Conservation_5-08-14.pdf, 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, OGWC 2018 Forest Carbon Accounting Project Report 2018. Keep Oregon Cool, Oregon Global Warming Commission. https://static1.squarespace.com/static/59c554e0f09ca40655ea6eb0/t/5c2e415d0ebbe8aa6284fdef/1546535266189/2018-OGWC-Biennial-Report.pdf

Currently, the objectives outlined in Goal G call for the Board to:

1. Encourage maintaining and increasing Oregon's forestland base and promote the maintenance and expansion of urban forests.
2. Promote increased public and forest landowner understanding of the potential contributions of trees, forests, and forest products in sequestering and storing carbon.
3. Ensure that carbon-offset markets as well as emerging markets for other ecosystem services provide easily accessible sources of revenues and do not discriminate against forest landowner participation based on regulatory requirements exceeding those for other land uses.
4. Encourage greater consumer awareness of the environmental advantages of using Oregon forest products and their use as substitutes for more energy intensive building materials.
5. Advocate for public and private forestland biomass to be considered on an equal basis with other renewable energy sources and as a key component of Oregon's strategy for meeting state greenhouse gas reduction and renewable energy portfolio standard policy goals.
6. Continue to support research and develop policies and incentives that will drive the growth of the biomass/ bioenergy/ bio-based products industry in the state.
7. Promote research and innovation towards increasing energy efficiency and reducing the use of fossil fuels in the Oregon forest sector.

These objectives may have been useful for framing the conversation in the past, but they are insufficient to inform the specific policy outcomes the Governor is seeking in EO 20-04. There are also several key considerations that either misrepresent the carbon benefits of certain policy outcomes, such as the efficacy of biomass as a climate solution, or are otherwise missing from the list of objectives. Decades of scientific study — including research from world leaders in forest climate science from Oregon State University[13] — demonstrates the need for action. While some climate-smart[14] opportunities will be more challenging and time-consuming to fully implement, the Board has the authority to act quickly on other fronts even as it continues to facilitate further research.

The following policy opportunities represent "low-hanging fruit" for the Board and ODF to adopt as the Oregon's decisionmakers work to *"prioritize actions that reduce GHG emissions in a cost-effective manner,"* and *"prioritize actions that will help vulnerable populations and impacted communities adapt to climate change impacts"* as directed in EO 20-04.[15]

[13] See, e.g. Terrestrial Ecosystem Research and Regional Analysis group (TERRA-PNW) publications: http://terraweb.forestry.oregonstate.edu/publications

[14] Refer to footnote 12.

[15] EO 20-04. https://www.oregon.gov/gov/Documents/executive_orders/eo_20-04.pdf

1. **<u>Lengthen logging rotations</u>** *(EO 20-04, ss. 3.A, 3.C.(1), 12.A).* The best available science[16] has made clear that current standard logging rotations (often as short as 35 years) undermine the ability of forests to maximize carbon stored.[17] By allowing trees to grow for longer time periods, managers can improve carbon stocks while also increasing timber yield and timber quality. Studies suggest that rotations of 80 years in Coastal Douglas fir may provide optimal carbon storage benefit, depending on assumptions about product longevity and substitution.[18]
2. **<u>Increase green tree retention on the land during harvest and promote diversity of species as opposed to monoculture plantations</u>** *(EO 20-04, ss. 3.A, 3.C.(1)-(3), 12.A).* 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.
3. **<u>Eliminate logging in biologically significant, carbon-rich mature and old growth forests, and in forests with the highest carbon sequestration potential</u>** *(EO 20-04, ss. 3.A, 3.C.(1), 12.A)*
   Mature and old growth forests store and sequester immense amounts of carbon. Wherever native stands of large trees exist, they should be protected as climate reserves. Further, decisionmakers should work to identify additional areas of the highest carbon storage potential that should also be protected as part of this carbon reserve. These same stands also provide high quality habitat for salmon and other at-risk wildlife, helping managers achieve two objectives at once.
4. **<u>Manage forests for clean water as a climate adaptation tool.</u>** *<u>(EO 20-04, s. 3.C.(2))</u>*
   Healthy forests protect clean water resources for people and wildlife. Clearcuts increase the risk of mudslides and sediment runoff, negatively impacting Oregon's rivers and streams. Further, pesticide spraying can also pose a risk to local communities. As the impacts of climate change worsen (including drought, heat waves, and more extreme precipitation events), Oregon's forests need to also be managed for clean water quality and quantity, and flood prevention as an adaptation tool.
5. **<u>Seek climate-smart provisions in the upcoming Habitat Conservation Plan (HCP) process</u>** *(EO 20-04, ss. 3.A, 3.C.(1), 12.A)*. Upcoming negotiations based on the passage of SB 1602 in 2020 will focus on modernizing the Oregon Forest Practices Act in order to benefit aquatic and riparian-dependent species. These negotiations should also

[16] See, e.g. Beverly E. Law, Tara W. Hudiburg, Logan T. Berner, Jeffrey J. Kent, Polly C. Buotte, Mark E. Harmon 2018. Land use strategies to mitigate climate change in carbon dense temperate forests. Proceedings of the National Academy of Sciences DOI: 10.1073/pnas.1720064115
https://web.archive.org/web/20180727130028/http://www.pnas.org/content/pnas/115/14/3663.full.pdf

[17] 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

[18] 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

optimize potential climate co-benefits outlined in EO 20-04, along with other key environmental concerns including science-based standards for riparian buffers, chemical-based vegetation management, steep slope logging, and cumulative impacts.

6. **Ensure better incentives for small family forest owners to implement climate-smart forestry on their lands** *(EO 20-04 s. 3.C(1))*
    a. Agencies should prioritize promoting stronger incentives and market development for small family forest owners willing to implement climate-smart forest management[19] on their lands (such as protection of larger stream buffers and late successional characteristics), including better state incentives for the production of FSC certified wood products.
    b. Small family forest owners should be allowed to aggregate small acreage into larger more impactful projects.
    c. Agencies should develop accountability standards to ensure incentives are awarded to forest owners who are currently practicing verifiable climate-smart forestry or will adopt verifiable, high standards of climate-smart forestry.
7. **Focus wildfire defense investments on preparing communities for increased risk, and ensure post-fire recovery efforts account for equity concerns.[20]** *(EO 20-04, ss. 3.C(2)-(3))*
    a. Increase emergency planning and preparedness for rural communities located in and near forested areas,
    b. Increase fire-wise home hardening and retrofitting (i.e., application of construction design and materials that are fire resistant),
    c. Reduce fuels in the home ignition zone,
    d. Limit new development in high-risk areas, and
    e. Ensure disadvantaged communities have equal access to resources.
8. **Elevate best practices in post-disturbance recovery efforts, focused on ecological restoration** *(EO 20-04, s. 3.C(2))*
    a. Reduce aerial and ground pesticide spraying. Longer rotations, greater tree retention and promoting biodiverse tree species are practices that will immediately reduce the need for chemical-based vegetation management and will help maintain the groundcover needed to retain soil carbon.

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[19] Climate-smart forest management integrates the challenges and opportunities of climate change mitigation and adaptation into forest policy, planning and practices, aiming to optimize carbon storage and sequestration in a manner that accounts for the worsening impacts of climate change. See, e.g. Stein, B.A., P. Glick, N. Edelson, and A. Staudt (eds.). 2014. Climate-Smart Conservation: Putting Adaptation Principles into Practice. National Wildlife Federation, Washington, D.C. https://www.nwf.org/~/media/PDFs/Global-Warming/Climate-Smart-Conservation/NWF-Climate-Smart-Conservation_5-08-14.pdf, 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, OGWC 2018 Forest Carbon Accounting Project Report 2018. Keep Oregon Cool, Oregon Global Warming Commission. https://static1.squarespace.com/static/59c554e0f09ca40655ea6eb0/t/5c2e415d0ebbe8aa6284fdef/1546535266189/2018-OGWC-Biennial-Report.pdf

[20] See, e.g. National Fire Protection Association 2020. https://www.nfpa.org/Public-Education/Fire-causes-and-risks/Wildfire/Preparing-homes-for-wildfire

b. Ensure post-fire salvage logging is focused on trees that pose a high risk to infrastructure, such as power lines and roadways.
c. Reduce slash burning in industrial timber lands and increase R&D investment into alternatives to slash burning. Slash burning immediately releases carbon to the atmosphere and puts significant quantities of smoke into local airsheds, exposing nearby residents to fine particulate matter and air toxics for multiple days. Incentivize projects to turn slash into biochar or soil nutrients.

9. **Establish new partnerships with Tribes, indigenous communities, and tribal climate activists**. *(EO 20-04, ss. 3.C.(2)-(3), 3.E)* Incorporate tribal climate mitigation and adaptation practices that can support increased carbon storage and sequestration in Oregon's forests, and seek to build bridges between western (conventional) and indigenous practices, including through use of prescribed fire in Oregon's eastern and southern forests.
10. **Establish a new Diversity, Equity and Inclusion (DEI) office within ODF** *(EO 20-04, ss. 3.B, 3.C(3)*. Climate-smart forest policy should also account for diversity, equity, and inclusion across all decisions the Board and ODF makes. A dedicated staff person will help ensure this need is met.

In addition to reframing the current list of objectives, the Board should also strive to ensure priorities are accurately focused on true carbon and climate benefits. For instance, most if not all commercial biomass facilities are not carbon neutral within a meaningful time frame for climate action. While fuel from wood is technically renewable (trees can be regrown), emissions from burning this product are released all at once, while the benefits of new sequestration can take decades, or even hundreds of years, to pull that same amount of carbon back out the atmosphere.[21] Development of woody biomass for energy production is likely to increase logging since waste from thinning operations and logging is insufficient to provide a significant power source for the state. Biomass facilities also have significant direct air pollution impacts for neighboring communities.[22] A climate strategy that promotes the use of biomass is therefore counterproductive and inconsistent with EO 20-04, insofar as it runs counter to the need for

[21] See, e.g. Mark Jacobson, 2014. Effects of biomass burning on climate, accounting for heat and moisture fluxes, black and brown carbon, and cloud absorption effects. Journal of Geophysical Research-Atmospheres. https://doi.org/10.1002/2014JD021861 and see, e.g. Searchinger, T. D, Beringer, T., Holtsmark, B., et al. 2018. Europe's renewable energy directive poised to harm global forests. Nature communications. Excerpt: "Unlike wood wastes, harvesting additional wood just for burning is likely to increase carbon in the atmosphere for decades to centuries. This effect results from the fact that wood is a carbon-based fuel whose harvest and use are inefficient from a greenhouse gas (GHG) perspective. Typically, around one third or more of each harvested tree is contained in roots and small branches that are properly left in the forest to protect soils but that decompose and release carbon. Wood that reaches a power plant can displace fossil emissions but per kWh of electricity typically emits 1.5x the CO2 of coal and 3x the CO2 of natural gas because of wood's carbon bonds, water content (Table 2.2 of ref. 17) and lower burning temperature (and pelletizing wood provides no net advantages) (Supplementary Note1)." https://www.nature.com/articles/s41467-018-06175-4

[22] See, e.g. Gilman, J.B, Lerner, B.M., Kuster, W.C. et al. 2015. Biomass burning emissions and potential air quality impacts of volatile organic compounds and other trace gases from fuels common in the US. Atmos. Chem. Phys. https://acp.copernicus.org/articles/15/13915/2015/acp-15-13915-2015.pdf and Jayarathne, T., Stockwell, C.E, Yokelson R., et al. 2014. Emissions of Fine Particle Fluoride from Biomass Burning. https://pubs.acs.org/doi/full/10.1021/es502933j

urgent and immediate action to reduce GHG emissions and mitigate near-term climate impacts to the greatest extent possible, and creates direct pollution risks for already vulnerable populations and impacted communities.[23]

We hope that the Board and ODF will strive to implement near-term policy solutions that position Oregon as a world leader in climate-smart forest management and carbon sequestration. In order to confront the threat of climate change, we must ensure the scope and scale of our solutions match the magnitude of the challenge and are sufficient to contribute substantially to meeting the interim target and final goal of Governor Brown's Executive Order 20-04.

Sincerely,

Danny Noonan
Climate Policy and Legislative Affairs Manager
Beyond Toxics

Lauren Anderson
Forest Climate Policy Coordinator
Oregon Wild

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

Rand Schenck
Member
OLCV Metro Climate Action Team (MCAT)

Joseph Vaile
Climate Program Director
Klamath-Siskiyou Wildlands Center

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

Felice Kelly, Ph.D.
Co-lead, Forest Defense Team
350PDX

[23] We will submit additional policy recommendations on biomass in a forthcoming letter to support better practices around this source of energy.

403 SE Caruthers St. #101
Portland, OR 97214
503.223.6418

January 19, 2021

Via Email ODF.SFComments@oregon.gov
Oregon Department of Forestry
State Forester Peter Daugherty
Board of Forestry Chair Tom Imeson
Public Affairs
2600 State Street
Salem, Oregon 97301

Re: North Cascade District – November 2020 Draft Major Revision to the 2012 Implementation Plan: Written Supplement to Travis Williams' Testimony

Dear Oregon Department of Forestry and Oregon Board of Forestry:

I write to offer supplemental information to my oral testimony on the Santiam State Forest Salvage Sale. The speed with which the state is pursuing the proposed salvage sale on the Santiam has left the public scrambling to gather information, and I want to make sure that you have the best available science before you in the decision-making process. See OAR 629-035-0020(3)(e). I am enclosing a list of scientific studies that address water quality impacts of salvage logging, which is obviously a key concern for my organization given the Santiam waters that feed the Willamette River Basin. Several studies are in addition to those we provided on December 23, 2020.

We ask that the Board direct the State Forester, pursuant to OAR 629-035-0010(3), to step in and protect the burned areas form salvage logging in order to protect against floods, erosion, and contamination of water supplies. At a minimum, this would include increasing the riparian buffers to hundreds of feet, and managing for mature forest conditions by leaving all burned trees instead of logging because logging sets back recovery into mature forest after a fire by decades. ORS 530.050 requires the State Forester to manage lands "so as to secure the greatest permanent value of those lands to the state." Under OAR 629-035-0020(2), this management must be pursued within a broader management context that:

(a) Results in a high probability of maintaining and restoring properly functioning aquatic habitats for salmonids, and other native fish and aquatic life.
(b) Protects, maintains, and enhances native wildlife habitats;
(c) Protects soil, air, and water; and
(d) Provides outdoor recreation opportunities.

Thank you for considering our concerns. We are fighting hard to protect all the waters in the Willamette River Basin, and need your help to do this.

Sincerely,

s/ Travis Williams
Travis Williams, Executive Director and Riverkeeper

Encl.

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2020 Operators of the Year

Darrell Jacobs Trucking, Inc.

D & H Logging Company

C & C Logging, LLC

GOALS

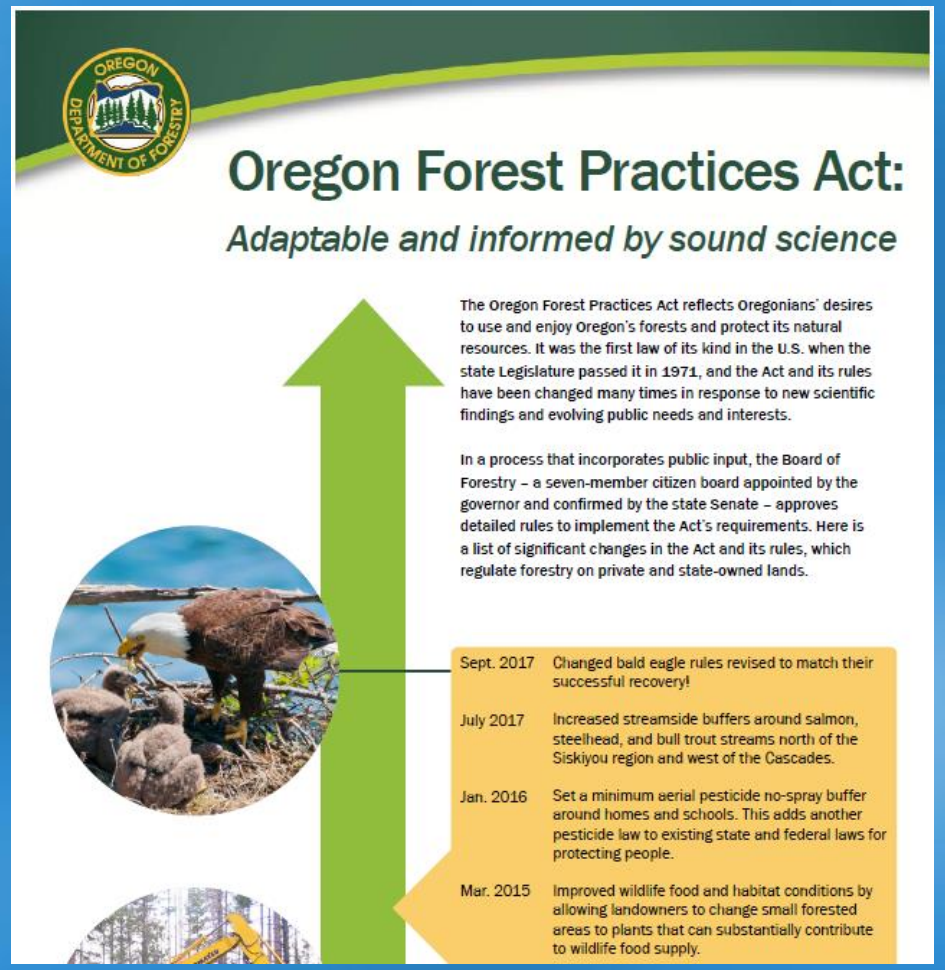
- Recognize operators

- To improve public understanding of the Forest Practices Act

Authority

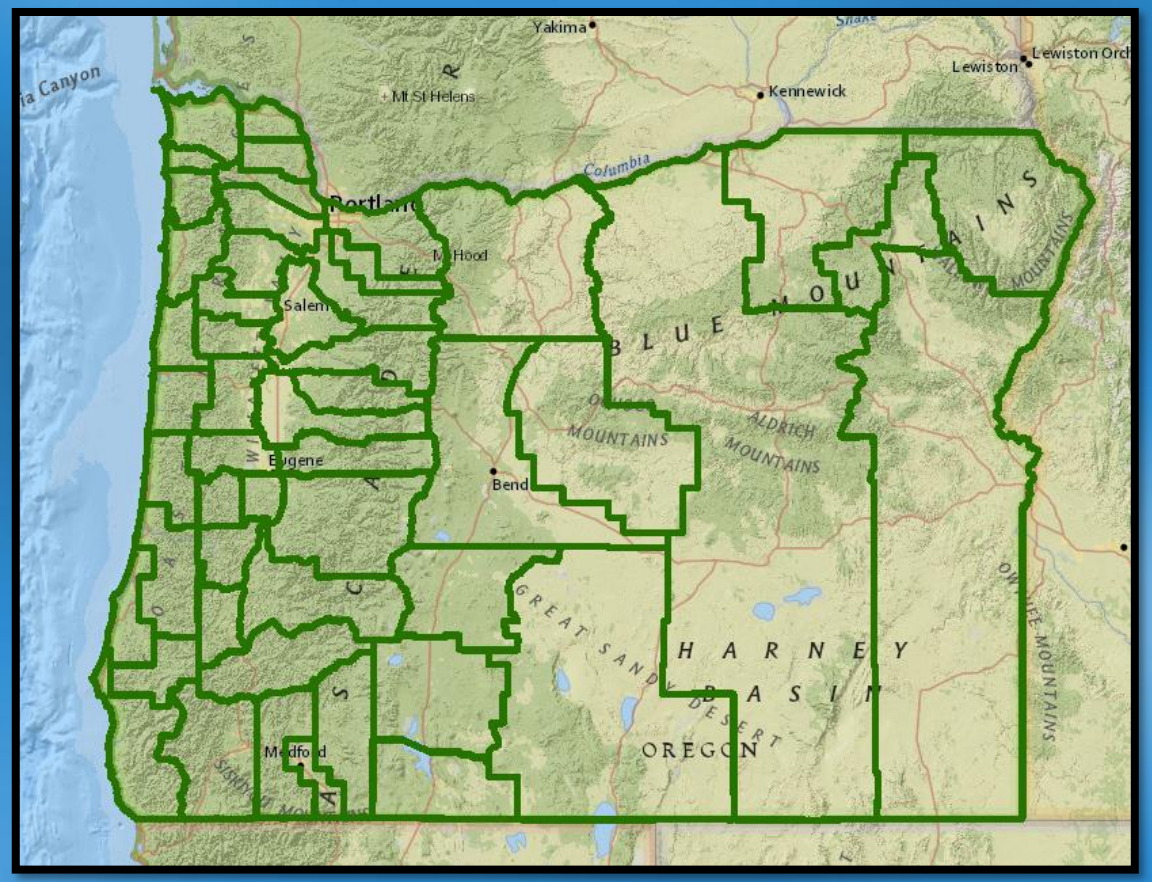
- **ORS 527.630** [E]ncourage economically efficient forest practices that assure the continuous growing and harvesting of forest tree species . . ..

- *Forestry Program for Oregon*'s Goal D



Honoring Work that Exceeds Natural Resource Protection Requirements

- Operators of the Year
- Merit Awards
- Commendation Letters



Who nominates?

- ODF Stewardship Foresters
- Logging Association Members
- Industry Members
- Communities
- Watershed Councils
- Anyone

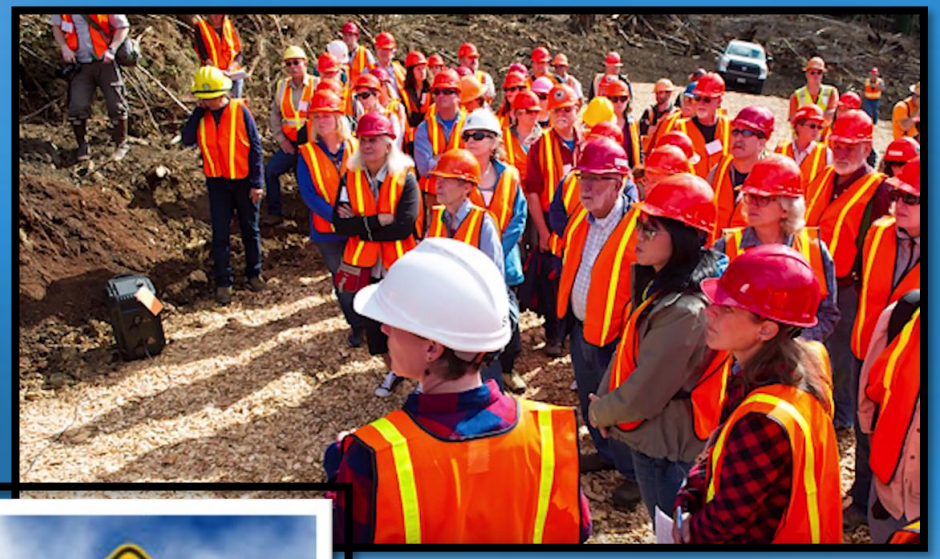
Criteria

- Consistency
- Difficulty
- Results
- Innovation and extra effort
- Financial risk to operator

Selecting

Regional Forest Practices Committees

- **Tour sites**
- **Review written nominations and video**
- **Deliberate**



Recognizing Quality

- Media
- Associated Oregon Loggers
- Oregon Logging Conference
- Oregon Small Woodlands Association
- Board of Forestry
- ODF outreach venues

Merit Award – SW Oregon
Weber Logging and Construction, Inc.

Merit Award – SW Oregon
Rocky Wardle

Merit Award – NW Oregon
Greg Johnson Logging

Merit Award – NW Oregon
J.M. Browning Logging

Merit Award – NW Oregon
Greenup Enterprises, Inc.

Merit Award – NW Oregon
Wayne Stone Logging, Inc.

Questions

Darrell Jacobs Trucking, Inc.
Eastern Operator of the Year

Darrell Jacobs
Owner
Darrell Jacobs Trucking Inc.

Play the video for Darrell Jacobs Trucking Eastern Oregon Operator of the Year

D & H Logging Co.
Southwest Operator of the Year

Play the video for D & H Logging Co. Southwest Oregon Operator of the Year

C & C Logging, LLC

Northwest Operator of the Year

Play the video for C & C Logging, LLC Northwest Oregon Operator of the Year

Questions

Congratulations!

2020 Operators of the Year

Congratulations Darrell Jacobs Trucking, Inc.

Jacobs Logging

Congratulations
D & H Logging Co.


NORTHWEST OREGON
REGION
2020 Operator of the Year
C & C Logging, LLC
For Exemplary Performance
Above the Forest Practices Act Requirements
Congratulations
C & C Logging, LLC

Thank You!

Darrell JACOBS
Klamath Falls, Oregon

JACOBS LOGGING

OREGON DEPARTMENT OF FORESTRY

LOGGING & LOVING IT
D & H LOGGING
DEDICATED & HONEST

C&C Logging

Congratulations
2020 Operators of the Year

ODF CLIMATE CHANGE PLAN UPDATE

January 6th, 2021

John Tokarczyk, Policy and Analysis Unit

Danny Norlander, Policy and Analysis Unit

ODF CLIMATE CHANGE PLAN

KATE BROWN
GOVERNOR

SENT VIA ELECTRONIC DELIVERY

July 20, 2020

Peter Daugherty
State Forester
Oregon Department of Forestry

Dear State Forester Daugherty,

Thank you for submitting the Oregon Department of Forestry's report on *Proposed Actions for Executive Order 20-04*. Recognizing the enormous risks of climate change, especially for vulnerable communities, and the significant economic opportunities inherent to transitioning to a low-carbon economy, Governor Brown issued Executive Order 20-04 directing state agencies to exercise any and all actions within their statutory authority to reduce emissions and help achieve new statewide science-based emissions reduction goals. We have reviewed the Department of Forestry's proposed executive order implementation plan, and in consultation with Governor Brown, provide the following guidance to ensure the agency's plans align with the Governor's expectations.

Climate change is significantly impacting Oregon's forest resources, through the increased severity and incidence of wildfire, drought, and changes in forest growth. Oregon's forests also play a significant role in mitigating climate change, by sequestering and storing carbon. The Department of Forestry's proposed plan outlines important research the Department will pursue to further quantify the carbon sequestration and storage potential of Oregon's forests and forest products. This data is important to inform the proposal of new state goals for carbon sequestration and storage, as directed by Executive Order 20-04. This data may also support implementation of climate-smart strategies the Department outlined, including forest conservation, reforestation, afforestation and expansion of the urban tree canopy, and fuels reduction on federal lands.

Oregon's forest resources are one of the state's greatest assets in the fight against climate change. Governor Brown expects the Oregon Department of Forestry to become a regional leader in climate-smart forestry to ensure the health of our climate and the long-term vitality of our forest products industry. To accomplish this, and in alignment with Executive Order 20-04, the Department should prioritize the goal of improving carbon sequestration and storage and reducing greenhouse gas emissions. This goal should be prominent in the agency's vision, culture, and presentation, and specific actions should be identified to more fully and ambitiously integrate climate change considerations into the agency's management plans and actions.

254 STATE CAPITOL, SALEM OR 97301-4047 (503) 378-3111 FAX (503) 378-6827
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The urgency of climate change demands a departure from business-as-usual for the Department of Forestry and all state agencies.

The Governor envisions that the Department will lead on climate-smart forestry both through its own work and in bringing leadership opportunities to the Board of Forestry. Leadership can be gained through innovation, creativity, and regular review and adoption of best climate-smart forestry practices globally. Specific goals need to be identified and systems for tracking and reporting outcomes and incentivizing climate-smart forestry practices and new markets for climate-smart wood products can be adopted. Greater energy efficiency and efforts to decarbonize the forestry sector can yield additional benefits not currently anticipated in the Department's proposed action plan.

The Governor requests that the agency prepare a Climate Change Plan for Board of Forestry review that builds on the agency's executive order implementation report and reflects a broader strategy for establishing Oregon's leadership in climate-smart forestry and greater accountability toward achievement of goals.

We look forward to continued collaboration with the Department of Forestry in pursuit of the state's climate goals and Executive Order 20-04.

Sincerely,

Jason Miner
Natural Resources Policy Director
Governor Kate Brown

Kristen Sheeran
Energy and Climate Policy Advisor
Governor Kate Brown

JM:kl

cc: Board of Forestry (BOF) Members
Tom Imeson, BOF Chair
Nils Christoffersen, BOF Member
Joe Justice, BOF Member
Jim Kelly, BOF Member
Brenda McComb, BOF Member
Mike Rose, BOF Member
Cindy Williams, BOF Member

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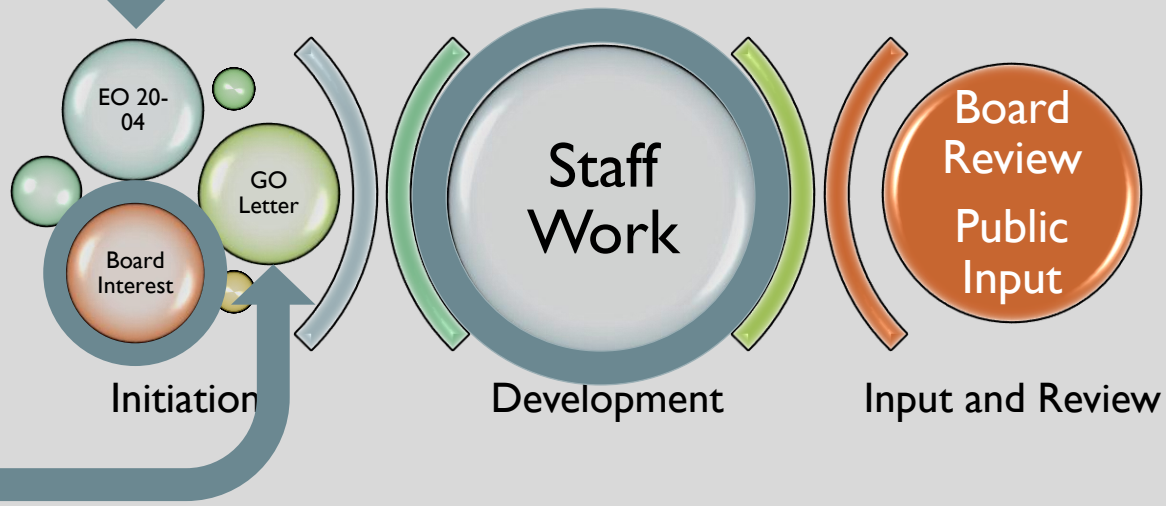
HOW WE GOT HERE

- March 2020: Governor Brown signs Executive Order 20-04
- May 2020: ODF submits the report outlined by the Executive Order
- Late July 2020: Governors office provides additional guidance to the Department to create a climate change plan.



SUMMARY OF CONTENT

- **Purpose:**
  - Make Oregon forestry a leader in climate change mitigation and adaptation.
  - The department 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.

SUMMARY OF CONTENT

- **Vision:**
  - The Oregon Board and Department of Forestry provide national leadership in climate-smart and socially equitable forest policies that ensure climate health, resilient forests, a viable forest products industry, and vibrant rural communities.

SUMMARY OF CONTENT

- **Principles:**
  - Climate change is a serious threat. We have less than a decade to alter behaviors if we want to alter catastrophic impacts. We must be innovative, creative, and proactive in working towards solutions, not reactionary to the results of climate change.
  - 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 and actions prioritize to benefit historically and currently underserved communities.
  - Oregon's forest sector offers opportunities for significant sequestration and storage both in the woods and in harvested wood products.

SUMMARY OF CONTENT

- **Forestry Climate Action Goals**
  1. Climate-Informed Forestry
  2. Fire Response and Fire / Smoke Adapted Communities
  3. State Forests Management
  4. Federal Forest Restoration
  5. Urban and Community Forests
  6. Reforestation and Afforestation
  7. Maintain and Conserve Forests
  8. Research and Monitoring

CLIMATE-INFORMED FORESTRY

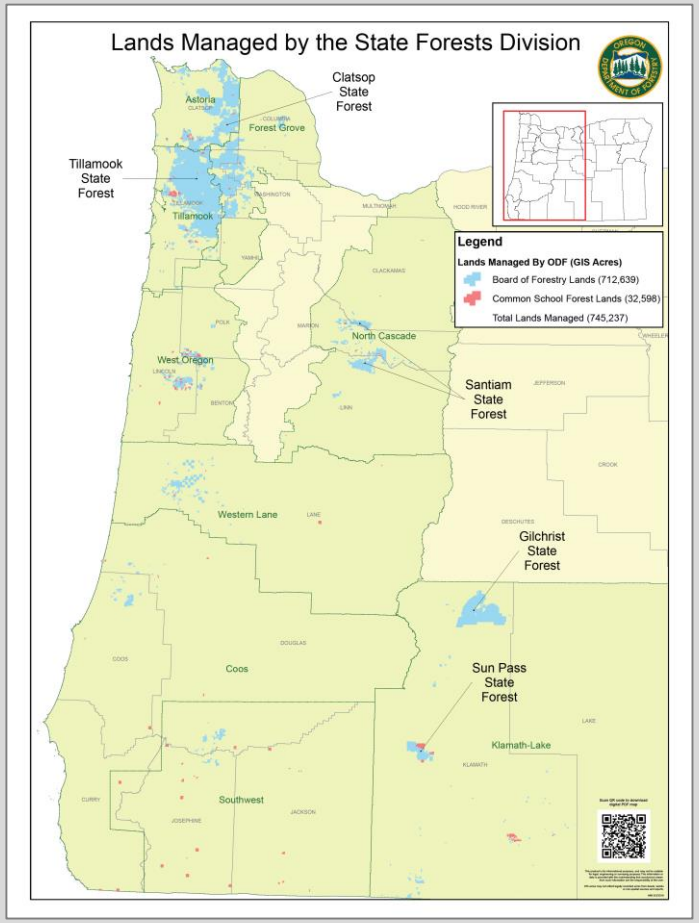
- *Encourage the just and equitable transition to climate-informed forestry that optimizes climate mitigation and adaptation, while maintaining a sustainable flow of wood products to ensure long-term resource benefits and viability of the forest products industry.*

FIRE MANAGEMENT, RESPONSE AND FIRE / SMOKE ADAPTED COMMUNITIES

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

STATE FORESTS MANAGEMENT

- *Lead by example and demonstrate climate-smart forest management on State Forests to achieve Greatest Permanent Value.*



FEDERAL FOREST RESTORATION

- *Accelerate the pace, scale, and quality of Federal 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.*

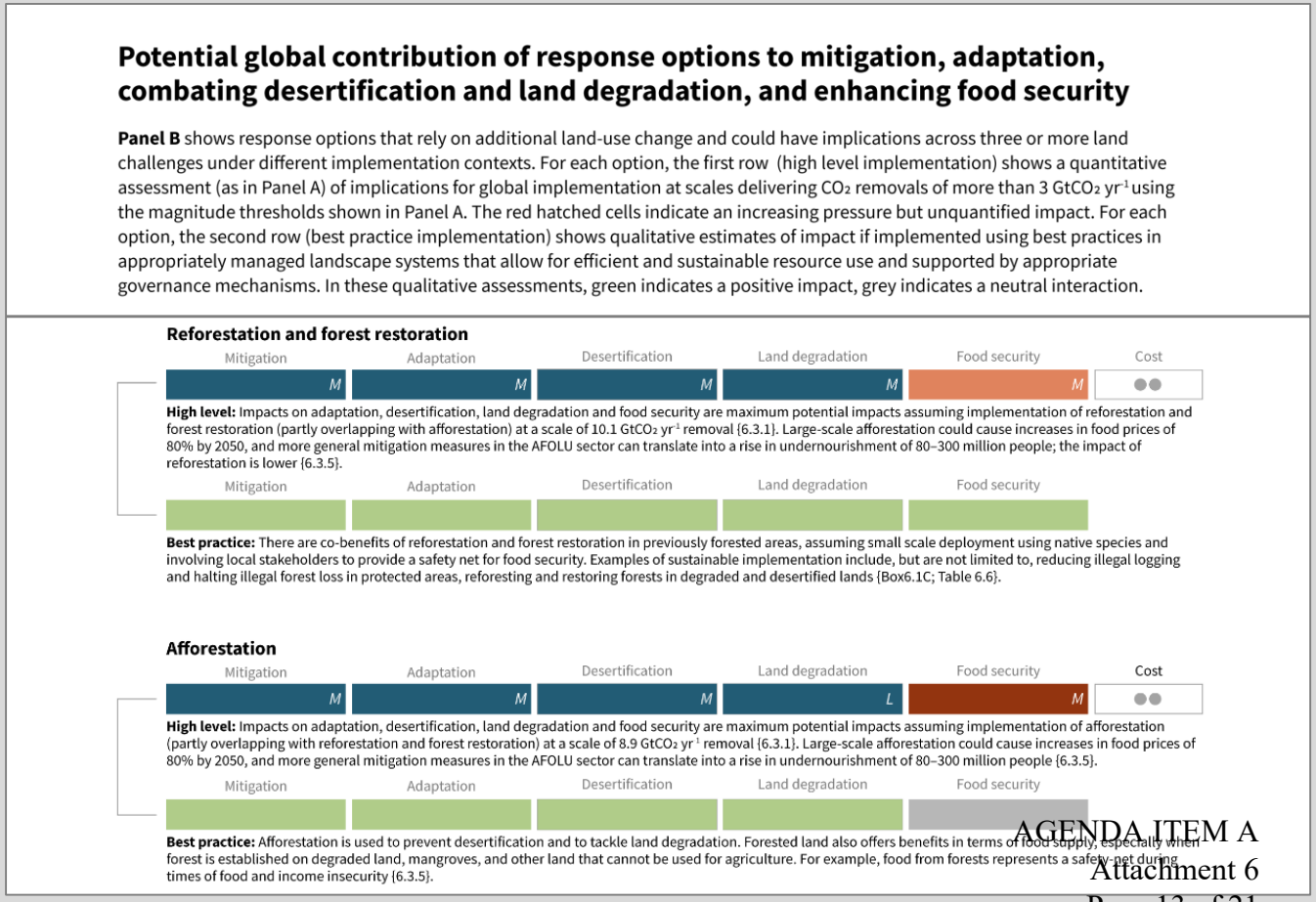
MEMORANDUM OF UNDERSTANDING
On
SHARED STEWARDSHIP
Between the
STATE OF OREGON
OREGON DEPARTMENT OF FORESTRY
And the
U.S. DEPARTMENT OF AGRICULTURE
USDA FOREST SERVICE, PACIFIC NORTHWEST REGION

URBAN AND COMMUNITY FORESTS

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

REFORESTATION AND AFFORESTATION

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



Potential global contribution of response options to mitigation, adaptation, combating desertification and land degradation, and enhancing food security

Panel B shows response options that rely on additional land-use change and could have implications across three or more land challenges under different implementation contexts. For each option, the first row (high level implementation) shows a quantitative assessment (as in Panel A) of implications for global implementation at scales delivering CO_2 removals of more than 3 $GtCO_2\ yr^{-1}$ using the magnitude thresholds shown in Panel A. The red hatched cells indicate an increasing pressure but unquantified impact. For each option, the second row (best practice implementation) shows qualitative estimates of impact if implemented using best practices in appropriately managed landscape systems that allow for efficient and sustainable resource use and supported by appropriate governance mechanisms. In these qualitative assessments, green indicates a positive impact, grey indicates a neutral interaction.

Reforestation and forest restoration

Mitigation	Adaptation	Desertification	Land degradation	Food security	Cost
M	M	M	M	M	●●

High level: Impacts on adaptation, desertification, land degradation and food security are maximum potential impacts assuming implementation of reforestation and forest restoration (partly overlapping with afforestation) at a scale of 10.1 $GtCO_2\ yr^{-1}$ removal {6.3.1}. Large-scale afforestation could cause increases in food prices of 80% by 2050, and more general mitigation measures in the AFOLU sector can translate into a rise in undernourishment of 80–300 million people; the impact of reforestation is lower {6.3.5}.

Mitigation	Adaptation	Desertification	Land degradation	Food security

Best practice: There are co-benefits of reforestation and forest restoration in previously forested areas, assuming small scale deployment using native species and involving local stakeholders to provide a safety net for food security. Examples of sustainable implementation include, but are not limited to, reducing illegal logging and halting illegal forest loss in protected areas, reforesting and restoring forests in degraded and desertified lands {Box6.1C; Table 6.6}.

Afforestation

Mitigation	Adaptation	Desertification	Land degradation	Food security	Cost
M	M	M	L	M	●●

High level: Impacts on adaptation, desertification, land degradation and food security are maximum potential impacts assuming implementation of afforestation (partly overlapping with reforestation and forest restoration) at a scale of 8.9 $GtCO_2\ yr^{-1}$ removal {6.3.1}. Large-scale afforestation could cause increases in food prices of 80% by 2050, and more general mitigation measures in the AFOLU sector can translate into a rise in undernourishment of 80–300 million people {6.3.5}.

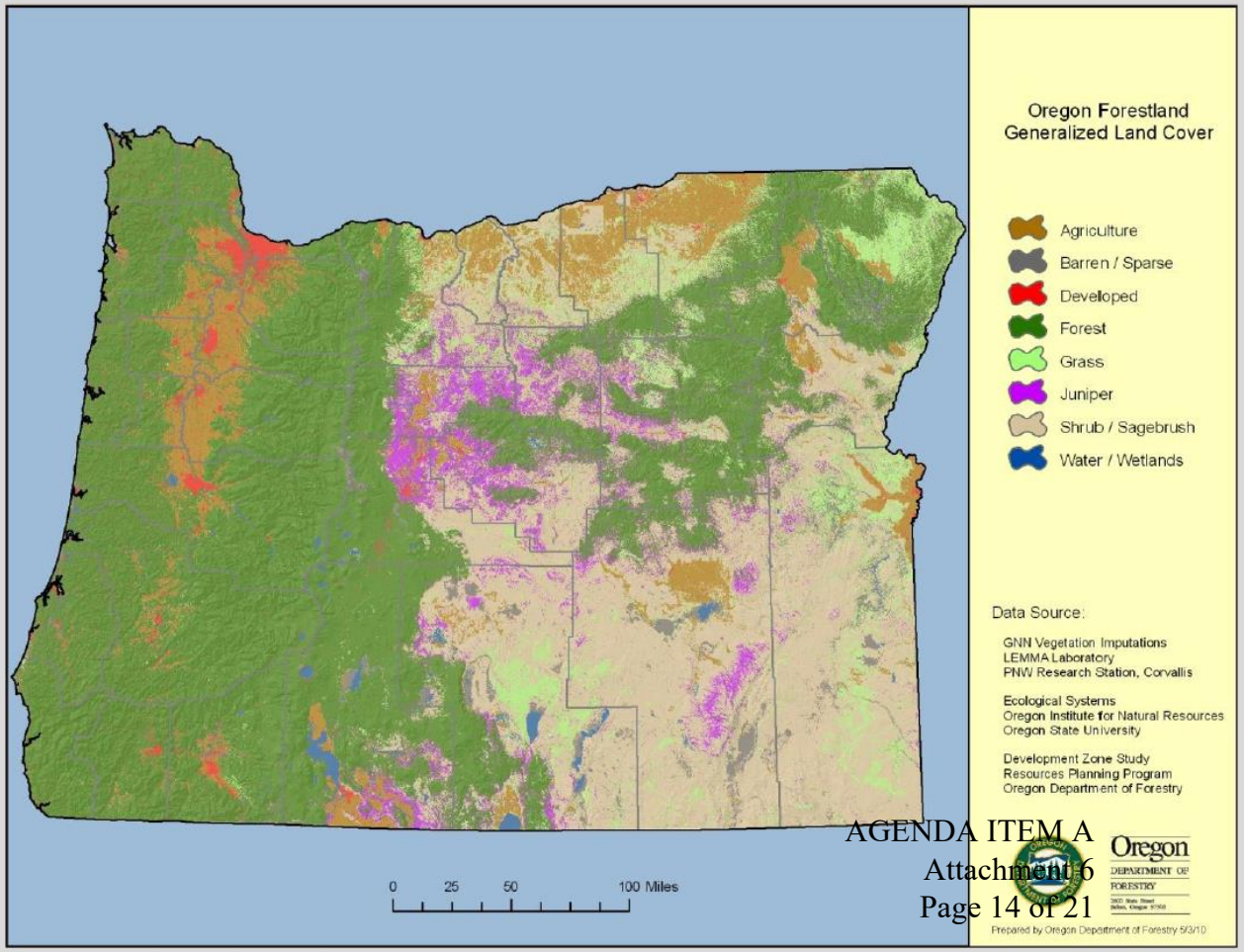
Mitigation	Adaptation	Desertification	Land degradation	Food security

Best practice: Afforestation is used to prevent desertification and to tackle land degradation. Forested land also offers benefits in terms of food supply, especially when forest is established on degraded land, mangroves, and other land that cannot be used for agriculture. For example, food from forests represents a safety net during times of food and income insecurity {6.3.5}.

IPCC, 2019: Summary for Policymakers. In: Climate Change and Land: an IPCC special report on climate change, desertification, land degradation, sustainable land management, food security, and greenhouse gas fluxes in terrestrial ecosystems [P.R. Shukla, J. Skea, E. Calvo Buendia, V. Masson-Delmotte, H.- O. Pörtner, D. C. Roberts, P. Zhai, R. Slade, S. Connors, R. van Diemen, M. Ferrat, E. Haughey, S. Luz, S. Neogi, M. Pathak, J. Petzold, J. Portugal Pereira, P. Vyas, E. Huntley, K. Kissick, M. Belkacemi, J. Malley, (eds.)]. In press.

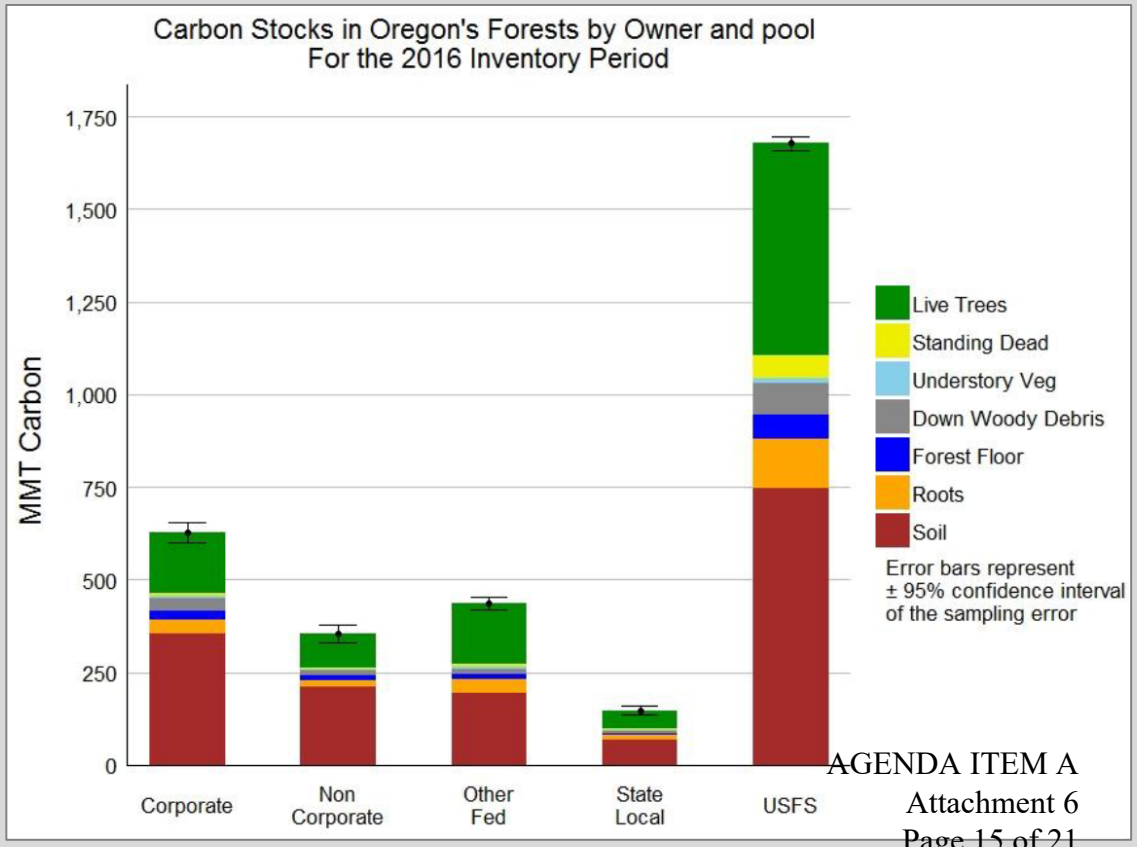
MAINTAIN AND CONSERVE FORESTS

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



RESEARCH AND MONITORING

- *Maintain a research and monitoring program to inform policy and measure accomplishment of goals*



SUPPORTING ACTIONS

- The plan goals are followed by more specific and measurable supporting actions, including:
  - Incorporating climate change in FPA rule development and revision
  - Incentivizing climate-smart forestry
  - Providing recognition of climate mitigation and adaptation measures
  - Developing an internal carbon pricing process
  - Restoration of low/under performing forests (e.g., Swiss needle cast)
  - Increase restoration efforts including a prescribed fire program
  - Afforestation and reforestation in the municipal and community environment
  - Investigate further decarbonization of forest activities and harvest
  - Among others

SUPPORTING ACTIONS

- Supporting actions will take place using a DEI lens
  - Utilization of the Equity Blueprint from the Climate Adaptation Framework
  - Ensure outreach and inclusion of Black, Indigenous, Tribal, and People of Color in the decision process
  - Include vulnerable populations in the decision process
    - Natural resource dependent communities
    - Lower income and traditionally under represented communities, groups, and people

PROGRESS MOVING FORWARD

- Staff will continue to draft the Plan
- Work with Executive Team members and the Board on public input process
- Incorporate broader work (e.g., CAF-Equity Blueprint)
- Conduct broad public input process
- Bring to the Board for review

TIMELINE

- Determine public process: first quarter 2021
- Draft completed: second quarter 2021
- Public/Board review begin: second quarter 2021
- Final board review: fourth quarter 2021

CONSIDERATIONS:

- Public input process:
  - Option A: Board → Public → Board
  - Option B: Public → Board
- Are there any goals missing?

DISCUSSION

Thank you

Pileated woodpeckers excavate nests within snags, bringing life to charred forests in Oregon. *NASA/S. Russell*

Cascadia WILDLANDS
we like it wild.

December 23, 2020

Oregon Department of Forestry, Public Affairs
2600 State Street
Salem, Oregon 97310

Submitted via email: ODF.SFComments@oregon.gov

RE: North Cascade District—November 2020 Draft Major Revision to the 2012 Implementation Plan

Thank you for considering these comments from Cascadia Wildlands, Oregon Wild, and Willamette Riverkeeper on the proposed revised implementation plan for the North Cascade District/Santiam State Forest.

Cascadia Wildlands is a public interest nonprofit organization with 10,000 members and supporters throughout the Cascadia bioregion. Our mission is to defend and restore Cascadia's wild ecosystems in the forests, in the courts, and in the streets. We envision vast old-growth forests, rivers full of wild salmon, wolves howling in the backcountry, and vibrant communities sustained by the unique landscapes of the Cascadia bioregion. Our members and staff use and enjoy the impacted salvage sale area.

Oregon Wild represents 20,000 members and supporters who share our mission to protect and restore Oregon's wildlands, wildlife, and water as an enduring legacy.

Willamette Riverkeeper is an Oregon non-profit corporation with offices in Portland and Eugene. Willamette Riverkeeper has approximately 7,000 members and supporters throughout the State of Oregon, including in the North Cascade District/Santiam State Forest area. Willamette Riverkeeper serves as the eyes and ears of the Willamette River Basin, protecting and restoring water quality, habitat, and the resources of the Willamette River Basin. The ODF's draft implementation plan will directly affect the creeks and tributaries of the Santiam River, which is an important tributary to the Willamette River.

Our organizations appreciate the effort given to organizing a public information session on this plan and the opportunity to engage with a variety of staff and administrators in the Q&A session. We have a few concerns with the urgent nature of this plan revision, particularly regarding salvage harvest, and we ask that you modify the proposed plan to account for the issues we raise below prior to making your final decision and implementation plan.

1. We understand that conditions on the Santiam State Forest changed rapidly during and after the Labor Day fires of 2020. However, we believe that now that the immediate crisis is over, the department would be wise to slow down, carefully consider input from Oregon citizens and decisionmakers, and meaningfully incorporate any input into the planning process.

2. We are concerned that the public's input on this process is being gathered as a mere formality. We understand that the Forest plans to offer the first salvage sale to potential buyers at 2:00 pm on December 23, 2020, based on information delivered at the one public info session. In addition, the state's timber sale website displays another fully-planned sale to be offered January 12, 2021. Given that the public comment period has not even closed yet (it ends January 4, 2021, presumably 5:00 pm or close of business), we wonder whether, or how much, the department will actively consider public input.

3. The Santiam State Forest is managed under the "greatest permanent value" standard. (ORS 520.010-530.050; OAR 629-035-0010, 629-035-0020.) This gives ODF wide latitude to manage for public benefits such as clean water, complex forest habitat, carbon storage, biodiversity, etc. And, the department is required to manage pursuant to the "best science available" by incorporating in its management practices ". . . an adaptive management approach that applies new management practices and techniques as new scientific information and results of monitoring become available." (OAR 629-035-0020(3).) The rush to log these burned forests is at odds with a wealth of scientific information developed in recent decades highlighting the ability of forests to recover naturally after fire, the high-quality habitat that results from natural recovery, and the "tax" on ecosystem recovery caused by salvage logging and replanting. Legacy retention and natural recovery instead of salvage logging is more likely to meet desired future conditions for stands where ODF is managing for late successional conditions, e.g., "layered forest" and "old forest." (See below, for instance, Lindenmayer et al. 2004; Swanson et al. 2010.)

4. While we agree that certain aspects of the fires' aftermath require some urgent remediation planning, we are not convinced that the proposed degree of all activities broadly characterized as being under the umbrella of "timber salvage" is either needed or so very urgent. For example, clearing main access points, providing for basic staff and public safety, rebuilding park headquarters and other infrastructure, and soliciting bids for rehabilitating recreation sites all seem to us as planning items that would reasonably justify an expedited implementation revision. Salvage harvest – especially with ongoing concerns including, for example, a saturated post-fire timber market and insufficient seedling supplies for reforestation – does not seem to justify the level of urgency displayed. Especially not one that gives the appearance of circumventing public oversight by advertising two fully-planned sales (one to be sold December

23, 2020, and one January 12, 2021), which have already been posted on the state's timber sale website before the comment period has even closed. How can the department already know what can be offered for sale if it has not considered and incorporated suggested changes to the implementation plan based on public comments? We are concerned that this plan revision process may not be consistent with state law requiring the department "[t]o provide the public with meaningful opportunities to comment and affect planning decisions at a time when public involvement can contribute positively to the planning decisions under consideration." (OAR 629-035-0080(1)(d).)

5. We also remain concerned that with no public access allowed to the planning sites, interested citizens are not able to get into the relevant portions of the Forest to lay eyes on forest conditions and think about the impacts of proposed operations. Is the agency offering tours to prospective timber operators? Can the interested public join these tours? We recognize there may be safety concerns, but some members of our organizations would be willing to sign waivers. In lieu of ODF organizing such a site inspection, the agency must make alternative arrangements such as photographs and video. We would be happy to suggest sections of the proposed area for ODF to target for providing this demonstrative evidence to support its claimed need for the project.

Beyond our concerns regarding the quick timeline, limited consideration of public input, and inability to view the relevant portions of the Forest, we also note the proposed revised implementation plan is itself short on many details. We would appreciate time to make a more thorough and informed review of, among others, the following topics, prior to a final revision.

- We understand there are at least three old-growth remnant patches within the fire perimeter. What is the burn severity for each of these stands, what is the stand age and composition, and what, if any, activities might be proposed in these stands now or in the future, pursuant to this revision? We urge that all old growth patches be retained because they contain large legacies that are ecologically valuable and long-lasting. Old growth patches also likely contain all the building blocks for natural recovery. Replanting is likely not needed, unless seed sources are very far away, in which case, low-density planting of diverse tree species may be warranted.

- We would ask the same questions for individual residual old-growth trees (alive, dead, or dying), including those in more layered or mature stands and perhaps individual legacy trees in younger managed stands.

- Please more fully explain the rationale for adhering to the smaller riparian management area widths of the 2010 forest management plan. We understand it is still the operative regional plan, but doesn't the department have discretion to implement wider riparian buffers – along the lines of those in the proposed HCP – in order to proactively manage toward your mandate to provide improved water quality and fish habitat? ODF has ample evidence that wider riparian buffers are more likely to meet aquatic objectives and are consistent with the GPV standard. Fire-killed trees represent the only large wood these streams are likely to get for the next 50+ years. Salvage logging within a

site-potential-tree distance from streams will reduce wood recruitment. Fire-killed trees also provide some shade to streams. Why is ODF willing to amend its plans in order to accelerate salvage logging, but not willing to change its plans to protect streams? Why is there no evaluation of the increased fire risk of replacing the burned stands with new plantations as discussed in Zald and Dunn (2018)? Has the agency evaluated restocking levels that might avoid some of the harmful impacts of young plantations to streamflow as identified in Perry and Jones (2017)? If artificial reforestation must happen, then can it be done at a lower number of trees per acre, thus allowing natural regeneration of the forest to occur, at least in part, and vibrant post-fire habitat to develop more naturally?

- It is unclear how the agency intends to differentiate dead/dying/living trees among the various burn severities and Desired Future Conditions. Will stands be clearcut regardless of legacy green trees? In lower-severity burn areas, can green trees be preserved even if the agency is determined to log dead trees (of course, we advocate that dead trees remain standing)?

- We are aware that ongoing timber operations outside the fire perimeter, planned prior to the fire, may have occurred or will occur in 2021. What is the cumulative interplay of these projects and their impacts with the heavy impacts necessitated by proposed salvage work, especially the up to 3,500 acres of clearcutting? What about the presumed heavy salvage logging occurring in the relevant watersheds on private or other land? From the draft plan, it does not appear the department evaluated the cumulative impacts of the proposal. But that would be required in order to properly manage these lands in a way that "(a) [r]esults in a high probability of maintaining and restoring properly functioning aquatic habitats for salmonids, and other native fish and aquatic life; (b) [p]rotects, maintains, and enhances native wildlife habitats; (c) [p]rotects soil, air, and water." (OAR 629-035-0020(2).)

- The 2010 FMP provides managers some flexibility to work toward preservation of burned forests that are likely to function as reserves in the forthcoming HCP. Monitoring and adaptive management were highlighted in 2010 and mentioned in the draft proposal and should be deployed here. Could the agency proactively seek opportunities to help the forest function more as an ecological system rather than a tree farm?

- The implementation draft does not make clear whether ODF satisfied its consultation requirements with U.S. Fish and Wildlife Service on the potential impacts to listed species and their habitats presented by this plan revision? We are concerned that the planned logging will cause Northern Spotted Owl take. Owls use burned forests. (Lee 2018, 2020.) According to the 2010 NWO Forest Management Plan (at 2-31, see below), up to 23 owl sites could be impacted by operations within the Forest, but the revised implementation plan does not address this.

Table 2-2. Spotted Owl Sites on Northwest Oregon State Forests, in 2008

	Pair Sites		Resident Single Sites		Total
	On ODF Land	Adjacent to ODF Land	On ODF Land	Adjacent to ODF Land	
Astoria	3	0	0	0	3
Tillamook	2	3	1	3	9
Forest Grove	1	0	1	1	3
West Oregon	2	7	1	4	14
Western Lane	5	51	1	10	67
North Cascade	7	10	2	4	23
Total	20	55	4	14	119

Beyond the questions we have regarding this proposal, we would also ask the agency to consider a few points before undertaking extensive post-fire logging.

As noted in the proposed plan, significant economic recovery of fire-killed trees can likely be expected from private lands. We believe this mandates a different role for public forests. We urge public land managers to focus on stabilizing watersheds and to emphasize natural recovery of complex early seral forests and retention of abundant snags and dead wood *instead* of focusing on maximization of claimed economic benefits of salvage logging as the predominant factor.

As a group of respected researchers discussed in the authoritative journal *Science*:

> [N]atural disturbances are key ecosystem processes rather than ecological disasters that require human repair. Recent ecological paradigms emphasize the dynamic, nonequilibrial nature of ecological systems in which disturbance is a normal feature and how natural disturbance regimes and the maintenance of biodiversity and productivity are interrelated . . . . Salvage harvesting activities undermine many of the ecosystem benefits of major disturbances. . . . [R]emoval of large quantities of biological legacies can have negative impacts on many taxa. For example, salvage harvesting removes critical habitat for species, such as cavity-nesting mammals, [and] woodpeckers, . . . Large-scale salvage harvesting is often begun soon after a wildfire, when resource managers make decisions rapidly, with long lasting ecological consequences. . . .

(Lindenmayer et al. 2004.) Forest managers should follow the best available science and avoid reliance on outdated provisions of existing management plans.

Roads and Streams

The burned area contains 190 miles of roads. A rough calculation yields an equivalent of 5 miles of road per square mile, averaged across the burned area. This is a very high-density road system that is incompatible with achieving GPV in these watersheds. Existing roads are chronic sources of soil erosion and sediment pollution with significant degrading effects to aquatic habitat (Gucinski et al. 2001). Any new road construction and renovation contribute additive resource damage including soil erosion and sedimentation of streams (McIver and Starr 2000, Robichaud et al. 2010, Trombulak and Frissell 2000). Increased soil erosion and stream sedimentation are unavoidable even when the most cautious road construction methods are used (Gucinski et al. 2001). It is likely that any new and renovated roads in the proposed action will contribute significant cumulative sediment production in the post-fire environment (Beschta et al. 2004, Karr et al. 2004).

Road-stream crossings cause significant downstream sedimentation and exacerbate alterations of channel morphology both upstream and downstream of the crossings (Furniss et al. 1991, Trombulak and Frissell 2000). Common mitigation measures ("best management practices") fail to prevent sediment production from heavy truck traffic, side casting and road grading, and such activities often trigger fill slope erosion and failures. Even with maximum mitigation effort, total accelerated erosion and sediment yields will be at least 50 percent greater than unmanaged conditions over a decade or longer (Gucinski et al. 2001).

Post-fire logging with ground-based systems will significantly increase soil and litter disturbance, slow vegetation recovery, and increase erosion with high risk of activity-caused sediment pollution reaching streams. McIver and McNeil (2006) observed that similar activity in a severely burned Oregon forest using a D6 tractor crawler and rubber-tired skidder on slopes averaging 15 percent caused measurable soil erosion. The studied action did not construct any new road, retained an average of 17 snags per acre, and included the following erosion control measures: (1) 30-meter spacing of skid trails; (2) 10-meter spacing of water bars; and (3) grass seeding of skid trails after use. Yet salvage logging caused significant soil erosion.

"Changes in mean percent area displaced were highly correlated with changes in stem density ... indicating that logging activity was an important factor behind observed levels of soil displacement" (128-29). The greatest amount of observed soil movement occurred where roads intercepted downslope cutting unit boundaries. Mitigation measures did not prevent sediment from entering streams (129-30). Sediment mostly originated from skid trails, log decks and haul roads. Measurement happened in the summer after logging operations, and probably failed to record the main flush of sediment that happened concurrent with operations. The reported quantities of sediment transport "should be considered as representative of the low end of the range that would be expected in a postfire tractor logging operation ... under similar burn severity conditions," and on similarly flat terrain without new road construction (123).

Buffers of riparian vegetation adjacent to streams are a standard mitigation practice intended to reduce adverse effects of soil erosion and sediment pollution of aquatic habitat resulting from road building and logging operations. Scientific controversy and uncertainty exist

regarding the site-specific effectiveness of riparian buffers for sediment filtering (Reeves et al. 2006). Without clear understanding of surface and subsurface hydrology in riparian areas, it is impossible to accurately predict the effectiveness of riparian vegetation trapping sediment (Gilliam 1994). Sediment accumulation in riparian buffers and trapping efficiency over time almost never are monitored or validated (Dillaha and Inamdar 1996). It is necessary to account for sediment accumulation over time because the buffers do not revert to an undisturbed condition after storm events. Any additional sediment transported downslope from management activity may be cumulatively significant depending on the trapping effectiveness of buffers.

Temporary roads have many of the same impacts as permanent roads, including complete vegetation removal, severe soil disturbance and compaction, severe modification of the flow of water and air through the soil, impairment of soil biological activity, wildlife habitat fragmentation (especially for microfauna), and wildlife cover loss. In spite of the fact that some roads may only be used by heavy equipment on a temporary basis, the biophysical effects of temporary roads can be long-lasting. ODF will likely reuse these temporary roads for future vegetation management or fire management. The temporal effects of temporary roads can also be extended by legal or illegal use by off highway vehicles, woodcutters, hunters, mushroom collectors, etc. The November 2000 National Forest Roadless Area Conservation FEIS (p. 3-30) says that temporary roads are often not designed and constructed to the same standard as classified roads and therefore result in a "higher risk of environmental impacts." ODF must account for this increased risk of temporary roads compared to permanent roads.

Ten or more cities draw their drinking water from the North Santi7am watershed: Detroit, Gates, Idanha, Jefferson, Lyons, Mehama, Mill City, Salem, Stayton, and Turner. The department should think proactively toward its responsibility to Oregonians by managing and preventing any contribution of sediment to the watershed.

We ask the department to be as cautious and judicious as possible when considering whether and how to renovate damaged roads, much less construct any new ones, even temporary roads. We are glad to see that potential restoration activities will include vacating legacy roads, particularly those within stream corridors, and encourage planners to actively engage with and maximize opportunities to retire as many road miles as possible throughout the planning area and all through the implementation period. We would ask the department to take this opportunity to eliminate roads into areas designated for older forest conditions. Has this been considered?

Post-Fire Forest Health and Desired Future Conditions

Multiples lines of research positively correlate post-fire logging with severe fire effects to soil, vegetation and wildlife habitat (Donato et al. 2006, Odion et al. 2004, Weatherspoon and Skinner 1995). Post-fire logging increases the likelihood of catastrophic reburn at short timescales (Odion et al. 2004). Slash fuel created by the proposed action will make direct attack of a future wildfire more difficult and hazardous, and will increase the likelihood of severe soil heating with corresponding losses of forest productivity (Reinhardt and Ryan 1998). Further,

the proposed action will remove snags that the 2020 fire did not consume, and replace them with planted stands of highly flammable young trees. Young planted stands established over a fuel bed of woody slash will dramatically increase fire hazard and dispose the landscape to favor highly intense fire behavior and severe fire effects (Odion et al. 2004; Thompson et al. 2007).

A study of the portions of the Biscuit fire that were previously burned by wildfire revealed that salvage logging did not reduce the severity of subsequent fires, and in fact salvage logging appeared to increase the severity of subsequent wildfires. (Thompson et al. 2007: **"**In places that burned with high severity in the Silver Fire, areas that were salvage-logged and planted burned with even higher severity than comparable unmanaged areas.") The best available science indicates that salvage logging increases small fuels that are most hazardous, and reduces large wood which is most valuable to wildlife. (Peterson et al. 2015.)

Additionally, soil displacement and exposure caused by road work and harvest operations will impair the competitive success of native plants and spread highly flammable invasive weeds (Lindenmayer et al. 2008). Biological invasion of exotic weeds caused by the proposed action will persist for decades. Weed establishment and spread over time will produce a less fire-resilient landscape with negative impacts to forest productivity (Brooks et al. 2004).

Portions of the action area affected by severe fire combined with salvage logging will experience lost recruitment of snags and coarse woody habitat for several decades or longer. The 2020 fire created a large pulse of snags, and likely also consumed snags and large downed logs. Wood deterioration in fire-killed Douglas-fir happens more slowly than in pine species (Lowell et al. 1992) and large snags (>50 cm dbh) may remain standing for decades before falling to the ground (Russell et al. 2006). Post-fire logging will prolong a foreseeable deficit of snag and downed log recruitment caused by the 2020 fire, and will reduce the number and extent of snags that may become downed logs over time.

The proposed action will preclude recovery of biologically critical forest habitat elements (Lindenmayer et al. 2008, Lindenmayer and Noss 2006, Quigley et al. 1996, Spies 2004, USDI 1994). This is particularly concerning in areas within the burn perimeter designated as Desired Future Condition OFS or LYR. These were designated in part with the expectation that they would provide some level of habitat function during their development into these future conditions; logging them will only set back a process that will proceed faster if left unlogged to recover naturally.

Retaining large woody legacies provides important habitat elements representative of old forests which allows some late-successional wildlife species to use young stands after fire. Salvage logging removes these legacy features and renders young stands inhospitable to late successional wildlife. Furthermore, natural vegetation recovery (as opposed to replanting) occurs unevenly over space and over time, which means that tree regeneration is spread out with clumps and gaps. A few trees get a 20-30 year head start on other trees. This results in a layered forest condition much sooner than a planted forest with trees all the same age.

Mid-seral stands that result from past clearcutting leave few if any legacies from the previous stand. Natural young stands tend to have abundant snags and dead wood, but clearcut stands are artificially deprived of dead wood for several decades. Better to leave stands in the Desired Future Condition OFS/LYR zones, as well as remnant old-growth stands, completely alone. It appears from the maps provided to date that salvage plans overlap areas of both OFS and LYR DFC, and we strongly encourage the agency to abandon plans to log these designated areas.

As the department knows well, fire as a disturbance provides the ideal conditions for a complex early seral ecosystem to emerge and flourish at least until conifer regeneration develops and dominates the site. In a forest experiencing natural recovery, the heterogeneous early seral ecosystem stage can persist for decades. However, this biodiverse condition can be brought to a screeching halt with salvage logging and conifer replanting that removes complex legacy structures, damages regenerating vegetation diversity, and accelerates conifer dominance. In fact, forests with structurally complex beginnings due to fire can develop desired old growth forest characteristics twice as fast as forests simplified by salvage logging and replanting.

We note that the revised proposed plan provides for natural regeneration where available. We support this provision wholeheartedly and would encourage the largest possible acreage be considered for natural reforestation – preferably without logging of burned trees, but even after logging if equipment has not so damaged the soil as to make natural recovery unlikely.

We understand that on the whole, riparian areas of the Santiam State Forest sustained a lower-intensity burn compared with upland zones and ridges. We encourage the agency to minimize or avoid logging within the riparian areas contemplated in HCP preparation. The proposal states that riparian areas will be evaluated for replanting, and we would encourage this and even offer to volunteer our supporters for replanting efforts, but we would ask that the agency minimize logging and replanting in areas where the fire was not completely stand replacing. We would also ask that riparian replanting efforts incorporate a diversity of native species and incorporate recent research suggesting that typical plantation-density stocking levels are not appropriate in riparian areas due to dewatering concerns. (Segura et al. 2020, Perry and Jones 2017.)

The best path to restoring complex *old* forest is by conserving complex *young* forest, not through salvage and replanting. (Donato et al. 2012.) The role of complex post-disturbance forest types is not well recognized in current management plans.

The US Fish & Wildlife Service may have said it best in the 2011 Revised Recovery Plan for the Northern Spotted Owl. Here is <u>what not to do</u>:

> Detrimental ecological effects of post-fire timber harvest include: increased erosion and sedimentation, especially due to construction of new roads; damage to soils and nutrient-cycling processes due to compaction and displacement of soils; reduction in soil-nutrient levels; removal of snags and, in many cases, live trees (both of which are habitat for spotted owls and their prey); decreased regeneration of trees; shortening in duration of early-successional ecosystems; increased spread of weeds from vehicles; damage to recolonizing vegetation; reduction in hiding cover and downed woody material used by spotted owl

> prey; altered composition of plant species; increased short-term fire risk when harvest generated slash is not treated and medium-term fire risk due to creation of conifer plantations; reduction in shading; increase in soil and stream temperatures; and alterations of patterns of landscape heterogeneity . . . . (III-48.)

And, according to the Service, here is what to do:

> Consistent with restoration goals, post-fire management ... should promote the development of habitat elements that support spotted owls and their prey, especially those which require the most time to develop or recover (e.g., large trees, snags, downed wood). Such management should include retention of large trees and defective trees, rehabilitation of roads and firelines, and planting of native species (Beschta et al. 2004, Hutto 2006, Peterson et al. 2009). We anticipate many cases where the best approach to retain these features involves few or no management activities. Forests affected by medium- and low-severity fires are still often used by spotted owls and should be managed accordingly. Many researchers supported the need to maintain habitat for spotted owl prey. For example, Lemkuhl et al. (2006) confirmed the importance of maintaining snags, downed wood, canopy cover, and mistletoe to support populations of spotted owl prey species. Gomez et al. (2005) noted the importance of fungal sporocarps which were positively associated with large, downed wood retained on site post-harvest. Carey et al. (1991) and Carey (1995) noted the importance of at least 10 to 15 percent cover of downed wood to benefit prey. (III-49.)

We encourage the agency to plan within this context, based on sound science and moving beyond arbitrary and outdated management direction.

Climate Change Impacts

Climate change is not only a primary driver of the increasing wildfires that threaten our communities and our forests, but climate change also adds significant uncertainty to our ability to conserve and restore old growth forests. After fire, agencies should manage to retain as much old forest structure and function as possible; this includes all large trees and snags. Converting burned forests to plantations lacking significant dead wood structure promotes a homogenous forest type that is already vastly over-represented in western Oregon, and one that poses a significant fire hazard for communities and remaining mature and old-growth forests. Complex early seral forests are also a hedge against climate uncertainty. Species-diverse forests are expected to be better able to tolerate and adapt to climate extremes and disturbance, and better able to store carbon more securely. (IPCC AR5 2014 and Osuri et al. 2020).

Has the department analyzed how this proposed logging aligns with the Governor's climate plan and Executive Order 20-04? Here is a golden opportunity to make some scientifically sound, post-fire management changes that could showcase a carbon-capture role for the Forest.

Conclusion

Post-fire logging has been proven repeatedly to be the most environmentally damaging form of logging. Its impacts on water quality, fish habitat, terrestrial habitat, soil, carbon storage, and forest recovery are universally negative. Given the expected low, or even negative, profitability of these salvage harvests, we urge the department to pull back from such intensive and destructive management and think bigger about the future of these burned forest acres. Here lies a wonderful opportunity for the state of Oregon to lead the way in smart post-fire management, by incorporating the best available science about forest recovery as well as the voices of its citizens, the majority of whom do not want to see our shared heritage managed for volume alone, especially at such dire cost to the environment.

Thank you for seriously considering our comments. Please consider performing further, thorough revisions to the implementation plan, followed by a renewed public input period. Please notify us of any final decision as well as any implementation-related plans and sales.

Sincerely,

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Submitted: Sun 01/03/2021 8:56 PM

Subject: Written testimony on the ODF climate change carbon plan

Message:

Members of the Board of Forestry and Representatives of the Department of Forestry,

The Department's Climate Change and Carbon Plan (Agenda Item 5) that is being presented during the January 6th Board of Forestry meeting is inadequate. The "Summary and Context" that precedes the plan states that it will lay out a draft plan framework, a plan for public engagement, and an overview of how the Climate Change and Carbon Plan relates to other work in the department. But the attached plan (pgs 124 and 125 of the materials that accompanied the Board of Forestry Agenda) is not a plan at all. It is a series of platitudes including that "Climate change is a serious threat," which is obvious on its face. This document lacks any concrete goals for reduction in greenhouse gas emissions or goals for increase in carbon sequestration. It does not include the promised plan for public engagement, and it does not outline how responding to EO 20-04 will alter the actions of the Department of Forestry.

This one-and-a-half-page document appears rushed and incomplete even though the Governor's Executive Order 20-04 was issued last March and the Department ostensibly has been working on its response to the Executive Order since then. The Department needs to put out a more substantial Climate Change and Carbon Plan promptly.

Sincerely,
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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.

January 6, 2021

To: Board of Forestry, Tom Imeson, Chair
Oregon Department of Forestry
Email: BoardofForestry@oregon.gov

Re: Agenda Item 5 – ODF Climate Change Carbon Plan and EO 20-04 – **Comments**

The League of Women Voters of Oregon has set its top priorities for the 2021 legislative session. Among them is this statement: "*address the climate emergency by supporting Governor Kate Brown's 2018-2020 Carbon/Climate Executive Orders, (EO 20-04) requiring net zero greenhouse emissions before 2050 while ensuring environmental justice with a just transition for workers and impacted communities*." The League recognizes that we are already experiencing a climate emergency with extreme wildfires, severe drought, rising temperatures and the astronomical costs associated with present and future climate disasters. The climate emergency must be addressed by strong and immediate changes in state forestry policy. We support climate goals and policies that are consistent with the best available climate science that will ensure a stable climate for future generations.

The best-available science on climate change is consistent and clear that one of the best and most cost-effective ways to reduce greenhouse gas emissions (GHG) to prevent rising global temperature is through carbon sequestration in forests, and some of the world's best trees for sequestering carbon grow in Oregon. 2018 research studies by Beverly E. Law, Tara W. Hudiburg and Rose Graves, and Oregon Global Warming Commission Chair Cathy Macdonald in the recent Biennial Report all agree that increasing carbon sequestration, especially in forests, will have the greatest global impact by absorbing and storing atmospheric carbon compared to other more costly methods.

The last Board of Forestry meeting focused on various steps ODF has taken on climate issues to prepare for its report due this June on the specific efforts it will take to address climate change. Modifying the Forestry Goal G is a good place to start. But the LWVOR is concerned that the language of "working to improve carbon sequestration and storage" does not convey the urgency of the climate situation since we are just 8-10 years away from reaching irreversible tipping points before irrevocable damage to the global climate according to recent studies. It is urgent that we reduce emissions to protect the world's precious natural resources and all the economies that rely on those resources.

ODF has to do more than just "demonstrate best practices" for forest management on its own state-managed forest lands. It needs to revise the Forest Practices Act and improve our laws to align with best climate-smart forest practices as is being done by our neighbors in Washington, California and British Columbia or better. This might include selective and patch harvesting of smaller plots as opposed to large clear-cuts, leaving more trees, and retaining older trees in wider buffers along both fish-bearing and non-fish bearing streams and on steep slopes. We must protect not only water for fish but drinking water sources in local communities as the atmosphere heats up and reduces stream flows.

The science on sequestration also indicates that the single most effective and efficient way to reduce atmospheric carbon is to move to longer harvest cycles of 80 years instead of 40-50 years, since older trees up to and beyond that age continue to sequester carbon, while more frequent timber harvests and logging operations actually add to CO2e emissions. Other climate-smart practices are variable density thinning with light impact machinery and promoting Forest Stewardship Council (FSC) certified wood products. These steps would reduce emissions while providing value timber. Other ecosystem services are also negatively impacted when laws regulating, and

enforcement of forest practices for harvest and pesticide spraying are too weak. These ecosystem elements include soil, air, and water quality that affect human health in nearby communities, as well as fish and wildlife. As reported in an article by Tony Schick (OPB) and Rob Davis (Oregonian) last week on the Jan. 1, "Timber tax cuts cost Oregon towns billions. Then clear-cuts polluted their water and drove up the price" Oregon's current logging practices are not protecting the drinking water and watersheds in communities located adjacent to harvested privately owned forestland. Sediment run-off in upstream waters cause costly damage to local water sources that must be paid for by local taxpayers with scant resources. These timber owners are abiding by current forest practice regulations that are no longer adequate as this climate crisis increases.

The League also realizes there are important economic factors that must be considered so that the burden of implementing climate-smart practices and longer rotations does not fall entirely on the timber industry. It is important that Oregon find creative ways to ensure that lost revenue from reduced timber extraction be considered for both ODF's own department resources and private timber owners. The economic structure is a regional problem that the Western State Governors are currently working on which requires a good understanding of market forces and incentives. With the new federal administration's focus on climate, there is an opportunity for strong federal leadership to solve this difficult problem of carbon cost accounting in all industry plans and practices to assure a fair and level playing field. We need to ensure that one group's profits do not become someone else's costs.

The Oregon Forest Resources Institute (OFRI) publication, "Carbon in Oregon's Managed Forests" cites three examples of carbon offset projects currently in place in Oregon implemented by a few public and private Oregon forest landowners, one in Astoria, one near Klamath Falls and one by the Confederated Tribes of Warm Springs that are using a carbon credit system. The European Union uses carbon offsets and might offer ideas on how carbon offsets can be designed. Our hope is that the Board of Forestry and ODF will seriously consider such programs, and take aggressive actions to implement critical improvements in practices and enforcement now that it is clear from the Dept. of Justice (DOJ) and recent legislation that you have the authority to do so.

LWVOR acknowledges the difficulty ODF faces to meet these goals through carbon sequestration since it competes with the necessity of generating its own revenue through timber sales on state lands to fund its own department operations and to keep up its revenue payments to the counties. Funding for department operations is an issue that must be solved. The Legislature, the Board of Forestry and Oregon citizens need to address this unsustainable situation so that global climate is not impacted by inaction and disfunction. Private timber owners must also provide some of the answers. Too much is at stake. A new funding mechanism for the department and a serious review of timber taxation must be part of the conversation.

We urge ODF and the Board of Forestry to make their priorities very clear with aggressive plans about what must be done to increase carbon sequestration to reduce CO2 emissions and to suggest the changes in rules and incentives needed to achieve increased sequestration. It is important to clearly identify the legislative changes needed. Revisions to the Forest Practices Act must also be made to meet these targets. With carbon sequestration a top priority, ODF can meet the governor's goal of "establishing Oregon's leadership in climate-smart forestry and greater accountability toward achievement of goals."

We appreciate the opportunity to submit our comments and hope they will be helpful. We look forward to working with all parties to find solutions for the good of all Oregonians.

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