Climate Advisory Committee

Moving the County’s Climate Agenda Forward with Climate Smart Forest Management

Background: The Oregon Global Warming Commission issued their Natural and Working Forest Lands Proposal on August 4, 2021. The Commission stated:

In 2019, carbon (dioxide) sequestered in natural and working lands—referred to by the U.S. Environmental Protection Agency (EPA) as “Land Use, Land Use Change and Forestry”—reduced total GHG emissions in the United States by 12 percent (EPA 2020). Researchers estimate that the amount of carbon sequestered annually in natural and working lands could be more than doubled by protecting and restoring natural habitats and modifying management practices in our forests, farms and rangelands (Fargione et al 2018).

Forest management practices retooled to respond to the climate scenarios we now face and will face in the near future serve to connect mitigation with adaption measures to enhance the resilience of ecosystem resources. Forests and forestry can play an important role in this context. Reducing forest degradation lowers greenhouse emissions. Forest management can maintain or enhance forest carbon stocks. Also, sinks and wood products can store carbon over the long-term and can substitute for emissions-intensive materials reducing emissions (IPCC 2019).

Overarching Goals: Our goal is that Lane County places a high priority on including specific strategies and policies to reduce GHG emissions and increase carbon storage in our natural and working lands. Our County is exceptional for its carbon-dense coast range forests as well as high-carbon tidal wetlands and estuaries that are fed by streams and rivers originating in our forest lands. Our natural and working forest lands can make a significant contributions to reaching the County’s goals to reduce carbon emissions as well as store carbon, both of which are essential to mitigate climate change. Lane County’s willingness to adopt climate-smart natural and working lands policies can either help enable climate-smart conservation, or hinder efforts to carry out climate adaptation.

Rationale for Adopting a County Approach to Climate Smart Forest Management: There exists a profound link between forest health and climate change. On one hand, climate change influences forests by adjusting the critical conditions of temperature and precipitation that support forest systems and individual forest species. On the other hand, some of Oregon’s forests are among the most effective carbon sequestration ecosystems on the planet. Additionally, climatic conditions (particularly snowmelt date, soil moisture and growing season temperatures) are among the most significant factors predicting a severe versus ‘normal’ wildfire year. (Excerpted from Southern Oregon Climate Action Network)

The Intergovernmental Panel on Climate Change (IPCC) states emissions must be cut in half by 2030 to stay below 1.5 degrees centigrade of warming. With less than a decade remaining to avoid catastrophic and irreversible climate impacts, the urgency of taking action has never been clearer. In the same vein, the extreme cost of climate inaction has never been more dire. The scope and depth of the program design choices that Lane County adopts in the coming months could be decisive in determining whether our “Climate Action Plan” lives up to its name.
Lane County Climate Advisory Committee Natural and Working Forest Lands Recommendations

Summary: The Lane County Climate Advisory Committee (CAC) recommends to the Board of Commissioners that the Board recognize the urgency of climate change and benefits of climate-smart forest management in climate planning. We highly recommend to the Board adoption of the following criteria when addressing climate action policies in the natural and working forestlands sector. The recommendations are broken into seven general categories:

1. **Adopt a definition of climate-smart or climate-adaptive forestry to guide future policy and practices.** Among the most commonly used definitions of adaptation are those put forward by the IPCC: “initiatives and measures to reduce the vulnerability of natural and human systems against actual or expected climate change effects” (IPCC 2007a), and “adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities” (IPCC 2007b).

2. **Assess climate impacts and vulnerabilities and identify resources of concern.** Identify potential and direct impacts to Lane County’s forest ecosystems.

3. **Invest to reduce carbon emissions related to forestry to meet its GHG reduction goal of XXX by 2040.** Lane County uses reforestation, afforestation and regenerative forestry practices to support bio-diverse, climate mitigating and sustainable forest management.

4. **Leverage Funding and Facilitate Intergovernmental Relationships.** Lane County leverages its key regional role to work with regional, state, and federal partners to acquire appropriate funding of climate-focused forest management policies and carbon storage projects throughout the county in collaboration with cities and agencies.

5. **Prepare for Fire, Recover from Fire and Manage for Fire Resistance.** Lane County, as a result of wildfire, supports efforts to restore a functioning forest, stable infrastructures and the relationship of forests to the watersheds.

6. **Support small foresters owning less than XXX acres of forests.** Lane County develops economic incentives to support protections for mature and old growth forests.

7. **Promote and Ensure Building Codes and Procurement Standards to Promote the Use of Sustainably Harvested Wood.** Lane County adopts sustainable procurement policies for the use of wood products in Lane County operations.

Long-term Goals and Criteria

The CAC also recommends adopting the following Long-term Goals and Criteria:

- GHG emission reductions and carbon storage criteria should inform all future natural and working lands and environmental decision-making.
- Foster intergovernmental collaboration to assess and update protection of mature forests, climate-focused forest management and fire hardening in the forested land-urban land interface to achieve the county’s climate goals.
- Place a high priority on co-benefits of climate-smart forestry that may be relevant for other county goals (e.g., advancement of equity, clean air, clean water, temperature cooling, and wildlife protections).
- Commit to policies that are both equitable and collaborative, with the inclusion of Tribes, other historically underrepresented groups, land managers, researchers, technical assistance providers and conservation organizations.
Adopt a definition of climate-smart forestry to guide future policy and practices.

Standard timber management practices will succeed when policies and practices balance harvesting, social needs and future ecosystem function, all of which are already being defined by climate change impacts. Adaptive forestry builds upon three mutual reinforcing concepts: Increasing carbon storage in forests and wood products, in conjunction with the provisioning of other ecosystem services; Enhancing the health and resilience through adaptive forest management and; Using wood resources sustainably to substitute for non-renewable, carbon-intensive materials.¹

The Commission may start with adopting this definition or a similar definition of climate-smart/climate-adaptive forestry:

Climate-smart forestry is “the intentional and deliberate consideration of climate change in natural resource management, realized through adopting forward-looking goals and explicitly linking strategies to key climate impacts and vulnerabilities” (Stein et al 2014). It entails focusing on climate adaptation and intentionally making a transition from a paradigm of resisting change, to one that anticipates and actively manages for uncertain yet plausible future conditions. We recommend that Commissioners consider adopting a definition of climate-smart forestry with these key characteristics of the “Climate Smart” approach²:

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

See Attachment #1 Climate-Smart Conservation: Putting Adaptation Principles into Practice (Stein et al 2014)

Assess climate impacts and vulnerabilities and identify resources of concern. Lane County should establish a blue ribbon workgroup to identify potential and direct impacts to Lane County’s forest ecosystems, including the related water, wetlands and estuarine systems.

Invest now to reduce carbon forest management practices to meet Lane County’s GHG reduction goal of xxx by 2040

Lane County can benefit forest businesses by incentivizing climate-smart practices and simultaneously support small forest owners:

- Identify goals for the adoption of climate-smart management practices.

¹ P. J. Verkerk, Climate-Smart Forestry: The Missing Link. (2020)

² Stein et al., Climate-Smart Conservation: Putting Adaptation Principles into Practice (2014)
• Increase protections for mature and old growth forests for carbon sequestration projects through tax incentives.
• Find funding and business loans to purchase electric equipment or diesel particulate emissions reduction equipment.
• Conduct an inventory of all County-owned lands with the potential to serve as carbon sinks and/or carbon sequestration opportunities.
• Advocate for state and regional policies that prioritize “intact forest” management that incorporates healthy biodiverse and mixed age forest stands, second growth (60-80 yrs) and old growth, mature forest (100+ yrs).

Leverage Funding and Facilitate Intergovernmental Relationships
Lane County will foster business innovations through facilitation and innovation:
• Promote and attract funding for a regional business accelerator and innovation project to support new climate-smart forest businesses to generate jobs by convening a consortium of government, higher education and investors.
• Explore state and federal programs and incentives to launch Lane County Carbon Sequestration Pilot Projects and a Lane County Carbon Bank.
• Share investments in technical assistance, incentives, and policy development to support adoption of climate-smart management practices.
• Work with federal and state governments and research and educational institutions to gain economic, climate and environmental benefits from restoring forested tidal wetlands and estuaries and other blue carbon opportunities on Lane County’s coastline.

Prepare for Fire, Recover from Fire and Manage for Fire Resistance
Lane County should be on the forefront of fire preparedness, recovery and resilience by supporting forest businesses:
• Adopt a Lane County Catastrophic Wildfire Program (see Attachment #2)
• Fund rural community fire hardening and pilot projects for selective traditional style preventative burning.
• Advocate for state and regional policies that establish forest management standards to increase sustainable and climate-smart forests that store carbon, maintain robust riparian buffers, adhere to longer harvest rotations, retain more trees and a diversity of species, and conserving natural forest structures.

Support small foresters owning less than XXX acres of forests
Lane County can invest in its small woodlands foresters in the following ways:
• Introduce various voluntary incentives to adopt sustainable practices.
• Promote alternatives for slash burning in Lane County by establishing a fee permit program for post timber harvest slash burning, and by providing a per acre incentive payment to offset costs of alternative treatments such as grinding or chipping. ODF records indicate that there were over 2,200 slash burn notifications filed from 2109-2021 with multiple piles per notification.3
• Promote incentives for leaving riparian buffer zones greater than 100 ft.
• Promote incentives to offset the cost of herbicide applications on forest land located within a drinking water or fish habitat watershed.
  o See Attachment #3 references to young Douglas fir survival and growth responses (T Harrington et al)

3 Estimated carbon released to the atmosphere from slash burning is an average of 23.15 tons per pile. Alternative options to manage forest slash include making smaller piles and mixing them with dirt to encourage revegetation, maturation (where slash is chipped and the chips are distributed to the forest floor) or pyrolysis where oxygen is reduced, and the remaining material is bio-char (used as a gardening additive). See Attachment #4 - A. Winterbourne, “Slash-pile biomass estimations and Carbon cycling in the Coastal Temperate Rainforest of the Pacific Northwest,” 2016 OSU Master’s Thesis
Promote and Ensure Building Codes and Procurement Standards to Promote the Use of Sustainably Harvested Wood

Lane County can realize benefits by prioritizing sustainable procurement in all County government construction and materials purchasing.

- Lane County building projects will use FSC certified wood materials and paper products or the equivalent if available.
  - See Attachment #3 Forest Stewardship Council [include descriptions of FSC criteria and https://us.fsc.org/en-us/newsroom/newsletter/id/1071]

In Closing

Oregonians are voicing growing concerns about conventional forestry in regards to short harvest rotations and reduced biomass in plantation forest landscapes, the effects of clear-cutting on drinking water and fish habitat, destruction of wildlife habitat, carbon sequestration, and wildfire risk. Scientists are making the case for the sequestration of carbon in forests and the co-benefits of forest biodiversity as effective actions to offset future emissions of greenhouse gases to mitigate the effects of climate change.

Thank you for considering these recommendations.

If you have any further questions, please contact the Chair of the Climate Advisory Committee, Haley Case-Scott.