

Oregon Board of Forestry – Public Meeting and Field Tour

Wednesday, March 8 and 9, 2023

March 8, Wednesday – Hybrid Public Meeting 7:30 a.m. – 4:30 p.m.

The Board will meet for their regular public business meeting at the LaSells Stewart Center on the Oregon State University (OSU) campus and in the Construction and Engineering Hall – 875 SW 26 Street, Corvallis, OR 97331. Parking is first come, first serve with a nearby garage and spaces requiring a fee to park, <https://lasells.oregonstate.edu/parking>

March 9, Thursday – Field Tour 8:30 a.m. – 3 p.m.

The tour will spotlight advanced wood product manufacturing innovations and collaborative solutions emerging in Oregon. The tour will begin at the Peavy Forest Science Center on the Oregon State University campus, main atrium – 140 Peavy Forest Science Center, 3100 SW Jefferson Way, Corvallis, OR 97331

The field tour itinerary will be posted a week leading up to the tour date. Members of the public wishing to join the tour are asked to bring their lunch and RSVP to boardofforestry@odf.oregon.gov by 5 p.m. Friday, March 3 to secure a seat with ODF. Carpool is encouraged, and parking on OSU requires a permit to be purchased online at https://aims.parking.oregonstate.edu/permits/?cmd=new_non_auth.

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The Board of Forestry March meeting will be hybrid to allow both in-person and virtual attendance. The meeting will be streamed live on the department’s YouTube channel, with an opportunity for the public to provide live testimony during the meeting. Field tour presentations and subsequent discussions will be recorded and posted on the department’s YouTube page following the tour. Written testimony may be submitted, before or up to two weeks after the meeting day to [boardofforestry@odf.oregon.gov](mailto:boardofforestry@odf.oregon.gov), please include the agenda item number or topic header with the submission.

**Link to view the Board of Forestry Meeting is available at**  
<https://www.youtube.com/c/OregonDepartmentofForestry>

Prior meetings’ audio and this meeting’s written material is available on the web [www.oregon.gov/odf/board](http://www.oregon.gov/odf/board). The matters under the Consent Agenda will be considered in one block. Any board member may request the removal of any item from the consent agenda. Items removed for separate discussion will be considered after approval of the consent agenda. Public comment will not be taken on consent agenda items.

**March 8th Public Meeting**

**Consent Agenda**

- 7:30 – 7:31 A. **Financial Dashboard Report – January and February 2023**..... Cal Mukumoto and James Short
- 7:30 – 7:31 B. **Annual Report on Tribal Working Relationships and Activities**..... Deanna Grimstead
- 7:30 – 7:31 C. **Annual Approval of the State Forester’s Financial Transactions – 2022**..... James Short
- 7:30 – 7:31 D. **Rangeland Fire Protection Association Grizzly Formation Approval** ..... Levi Hopkins
- 7:30 – 7:31 E. **Forest Practices Act Report to the Legislative Assembly** ..... Josh Barnard
- 7:30 – 7:31 F. **2023 Board Governance Performance Self-Evaluation** ..... Sabrina Perez

**Action and Information**

- 7:31 – 9:00 1. **State Forester and Board Member Comments**  
 A. **Public Comments** [for information items on agenda and topics not on agenda-see page 3].... Register online
- 9:00 – 9:30 2. **Forest Protection Association Overview** ..... Mike Shaw, Pat Skrip, Mike Robison, and RD Buell  
*The Department invited a panel to provide an overview of the history of Forest Protective Associations and their relationship with ODF and the Board. This is an informational item.*
- 9:30 – 10:00 3. **Proposal for new Climate Smart Award** ..... Josh Barnard and Christine Buhl  
*Forest Resources staff will present the structure and proposed criteria of the new Climate Smart award which is from the Department’s Climate Change and Carbon Plan (CCCP). The award will recognize landowners/managers, researchers, and operators that use climate change-adapted practices or develop innovative methods for carbon capture, retention, or reduced release. This is an informational item.*
- 10:00 – 10:30 Morning Break
- 10:30 – 10:45 4. **Forestry Program for Oregon Update and Oregon Kitchen Table Proposal for Engaging Oregonians**  
 ..... Ryan Gordon and Wendy Willis  
*The Department will provide an update on the progress of the Forestry Program for Oregon (FPFO) Subcommittee work and discuss their aim to advance community engagement with the FPFO revision process. A proposed timeline of the phased approach for this work will be reviewed. This is an informational item.*
- 10:45 – 11:00 5. **2023 Legislative Session Update** ..... Ryan Gordon and Derrick Wheeler  
*Department to provide updates on the 2023 Legislative Session, including bills of interest, review the budget process, and provide any Governor’s Office administration updates. This is an informational item.*

- 11:00 – 12:00    **6. Sightline Institute: Long Rotational Forestry Discussion** ..... Ryan Gordon and Kate Anderson  
*Department invited Sightline Institute to present their research on long rotations in the northwest. Theory, modeling and policy considerations will be discussed. This is an informational item.*
- 12:00 – 1:30        Lunch
- 1:30 – 1:45        **7. Forest Trust Land Advisory Committee Testimony** ..... David Yamamoto  
*The FTLAC is a statutorily established committee that advises the Board on State Forests policy.*
- 1:45 – 3:10        **8. Field Tour Overview** ..... Ryan Gordon, Marcus Kauffman, and External Guests  
*Moderated discussions and speakers organized to provide foundational information for the tour stops scheduled for the following day, March 9<sup>th</sup>. Three key subjects will be presented, an overview of Oregon Mass Timber Coalition, advancing a forest restoration supply chain, and smart forestry investments. This is an informational item.*
- 3:10 – 3:30        Afternoon break
- 3:30 – 4:15        **8. Field Tour Overview Continued** ..... Ryan Gordon, Marcus Kauffman, and External Guests
- 4:15 – 4:30        **9. Board Closing Comments and Meeting Wrap-Up** ..... Chair Kelly and Board Members  
**A. Board Chair and members to summarize the meeting’s action items and provide closing comments.**
- 4:30                Public meeting adjourns

### March 9th Field Tour Schedule

#### Corvallis Area

- 8:30 – 9:00        **Welcome Comments and Vehicle Assignments** Oregon State University, Peavy Forest Science Center Atrium  
**A. Field Tour RSVP** ..... Register in advance and online
- 9:00 – 10:00        **Tour Stop One** ..... TallWood Design Institute, A.A. Red Emmerson Lab
- 10:00 – 11:15        Travel time to the second stop
- 11:15 – 1:00        **Tour Stop Two** ..... Freres Mill
- 1:00 – 2:15        Return trip
- 2:15 – 3:00        **Field tour close out and Board Member comments** ..... TallWood Design Institute Foyer
- 3:00 p.m.            Field tour concludes

The times listed on the agenda are approximate. At the discretion of the chair, the time and order of an agenda item—including the addition of a break or executive session—may change to maintain the meeting flow. \*A single asterisk preceding the item number marks an executive or work session, and public testimony/comment will not be accepted.

**BOARD WORK PLANS:** Board of Forestry (Board) Work Plans result from the board's identification of priority issues. Each item represents the commitment of time by the Board of Forestry and Department of Forestry staff that needs to be fully understood and appropriately planned. Board Work Plans form the basis for establishing Board of Forestry meeting agendas. The latest versions of these plans can be found on the Board's website at: <https://www.oregon.gov/odf/Board/Pages/AboutBOF.aspx>

**PUBLIC TESTIMONY:** The Board of Forestry places great value on information received from the public. The Board will only hold public testimony at the meeting for decision items. The Board accepts written comments on all agenda items except consent agenda and Work Session items [see explanation below]. Those wishing to testify or present information to the Board are encouraged to:

- Provide written summaries of lengthy, detailed information.
- Remember that the value of your comments is in the substance, not length.
- For coordinated comments to the Board, endorse rather than repeat the testimony of others.
- To ensure the Board will have an opportunity to review and consider your testimony before the meeting, please send comments no later than 72 hours before the meeting date. If submitted after this window of time the testimony will be entered into the public record but may not be viewed by the Board until after the meeting.
- For in-person meetings, sign in at the information table in the meeting room when you arrive. For virtual meetings, follow the signup instructions provided in the meeting agenda.

Written comments for public testimony provide a valuable reference and may be submitted before, during, or up to two weeks after the meeting for consideration by the Board. Please submit a copy to [boardofforestry@odf.oregon.gov](mailto:boardofforestry@odf.oregon.gov), and written comments received will be distributed to the Board. Oral or written comments may be summarized, audio-recorded, and filed as a record. Audio files and video links of the Board's meetings are posted within one week after the meeting at <https://www.oregon.gov/odf/Board/Pages/BOFMeetings.aspx>

The Board cannot accept comments on consent agenda items or a topic for which a public hearing has been held and the comment period has closed. Advanced public testimony sign-up is closed, as of 03/03/2023. If experiencing technical issues or require accommodations contact the Board Administrator, [Hilary.Olivos-Rood@odf.oregon.gov](mailto:Hilary.Olivos-Rood@odf.oregon.gov).

Three minutes will be allotted for each individual to provide their comments. Those requesting additional time for testimony should contact the Board Support office at 503-945-7210 at least three days before the meeting. The maximum amount of time for all public testimony for agenda items with a Board decision will be thirty minutes.

**WORK SESSIONS:** Certain agenda topics may be marked with an asterisk indicating a "Work Session" item. Work Sessions provide the Board opportunity to receive information and/or make decisions after considering previous public comments and staff recommendations. No new public comment will be taken. However, the Board may choose to ask questions of the audience to clarify issues raised.

- During consideration of contested civil penalty cases, the Board will entertain oral argument only if Board members have questions relating to the information presented.
- Relating to the adoption of Oregon Administrative Rules: Under Oregon's Administrative Procedures Act, the Board can only consider those comments received by the established deadline as listed on the Notice of Rulemaking form. Additional input can only be accepted if the comment period is formally extended (ORS 183.335).

**GENERAL INFORMATION:** For regularly scheduled meetings, the Board's agenda is posted on the web at [www.oregonforestry.gov](http://www.oregonforestry.gov) two weeks before the meeting date. During that time, circumstances may dictate a revision to the agenda, either in the sequence of items to be addressed or in the time of day the item is to be presented. The Board will make every attempt to follow its published schedule and requests your indulgence when that is not possible.

To provide the broadest range of services, lead-time is needed to make the necessary arrangements for offsite locations. If special materials, services, or assistance is required, such as a sign language interpreter, assistive listening device, or large print material, please contact our Public Affairs Office at least seven working days before the meeting via telephone at 503-945-7200 or fax at 503-945-7212.

Use of all tobacco products in state-owned buildings and on adjacent grounds is prohibited.

|                       |                                                                                                                                                  |
|-----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| Agenda Item No:       | A                                                                                                                                                |
| Work Plan:            | Administrative                                                                                                                                   |
| Topic:                | Financial Dashboard                                                                                                                              |
| Presentation Title:   | Department Financial Report for January and February 2023                                                                                        |
| Date of Presentation: | March 8, 2023                                                                                                                                    |
| Contact Information:  | James Short, Assistant Director for Administration<br>(503) 945-7275, <a href="mailto:james.short@odf.oregon.gov">james.short@odf.oregon.gov</a> |

## **SUMMARY AND CONTEXT**

An executive financial report and summary will be submitted monthly to ensure the Board of Forestry (Board) has up-to-date information for oversight of the Department's financial condition. This report will include the financial and budgetary status of the Department as well as other ancillary topics as appropriate.

## **BACKGROUND AND ANALYSIS**

This consent item is transparent publishing of the Department's transmittal of monthly financial reports to the Board of Forestry. While executive-level in nature, the financial report provides information on various topics that are either germane, or have direct impacts on the financial status of the agency, or other administrative functions of the organization during any given month.

This financial report will continue to evolve over time. As the Department's reporting ability matures and insights into its operational and administrative work improve, this financial report will reflect those improvements. These improvements could include operational or process improvements or the introduction of new systems and technologies that enhance the Department's administrative capabilities. In addition, Board input will be factored in as the report evolves.

## **NEXT STEPS**

The Board will receive the Department's Financial Report the third week of every month, whether a Board meeting is occurring or not. This will allow the Department to report on the previous month while allowing for the fiscal month closing process to conclude.

## **ATTACHMENTS**

- 1) Department of Forestry Financial Report for January 2023
- 2) Department of Forestry Financial Report for February 2023 (available before the meeting)





February 1, 2023

Sen. Elizabeth Steiner Hayward, Co-Chair  
Rep. Tawna Sanchez, Co-Chair  
Joint Committee on Ways and Means  
900 Court St. NE, H-178  
Salem, OR 97301

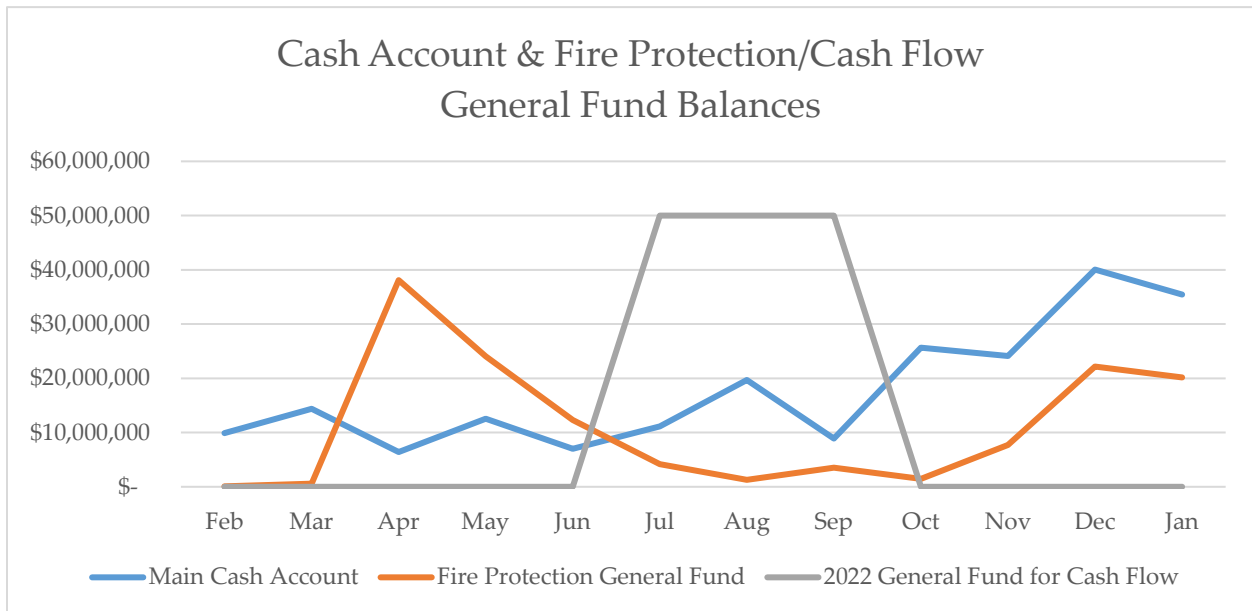
Re: Oregon Department of Forestry (ODF)—Monthly financial condition report

Dear Co-Chairs,

### Cash and General Fund Balances

As of Jan. 23, ODF's main cash account balance was \$35.4 million and the Protection Division General Fund appropriation balance was \$20.2 million (Figure 1). Between November and January, the cash account balance increased \$11.3 million, and the Protection Division General Fund appropriation balance increased \$12.5 million.

Figure 1 - Cash Account and Fire Protection/Cash Flow General Fund Balances as of Jan. 23, 2023



The cash balance increase was primarily attributed to a \$10.4 million reimbursement from the Oregon Department of Emergency Management (ODEM) for a 2020 FEMA-Public Assistance (PA) grant. The increase in the Protection Division General Fund appropriation balance was due to December 2022 Emergency Board special purpose appropriation allocations for 2022 severity costs and the state’s portion of net 2022 fire season costs.

### Financial Projections

Net financial activity for December 2022 resulted in an increase to the department’s end of month main cash balance (Table 1). Quarterly distributions to counties for their respective portion of timber sales revenue will occur by the end of January. These distributions will be offset by a cash reimbursement in transit from the FEMA-Fire Management Assistance Grant (FMAG) program for the 2021 Bootleg fire.

With a projected cash balance available to cover current financial obligations, the department can proceed with processing the last fire season 2021 cash flow reimbursement totaling \$10 million. This final reimbursement will result in an increase to the Federal Forest Restoration General Fund appropriation. Once processed, all department programs will be made whole from prior cash flow mitigation efforts.

Transfers related to FEMA-PA grant reimbursements continue to prove difficult to project due to variances in timeframes for grant review completion.

Table 1 - Financial Projections through Jan. 23, 2023 (in thousands)

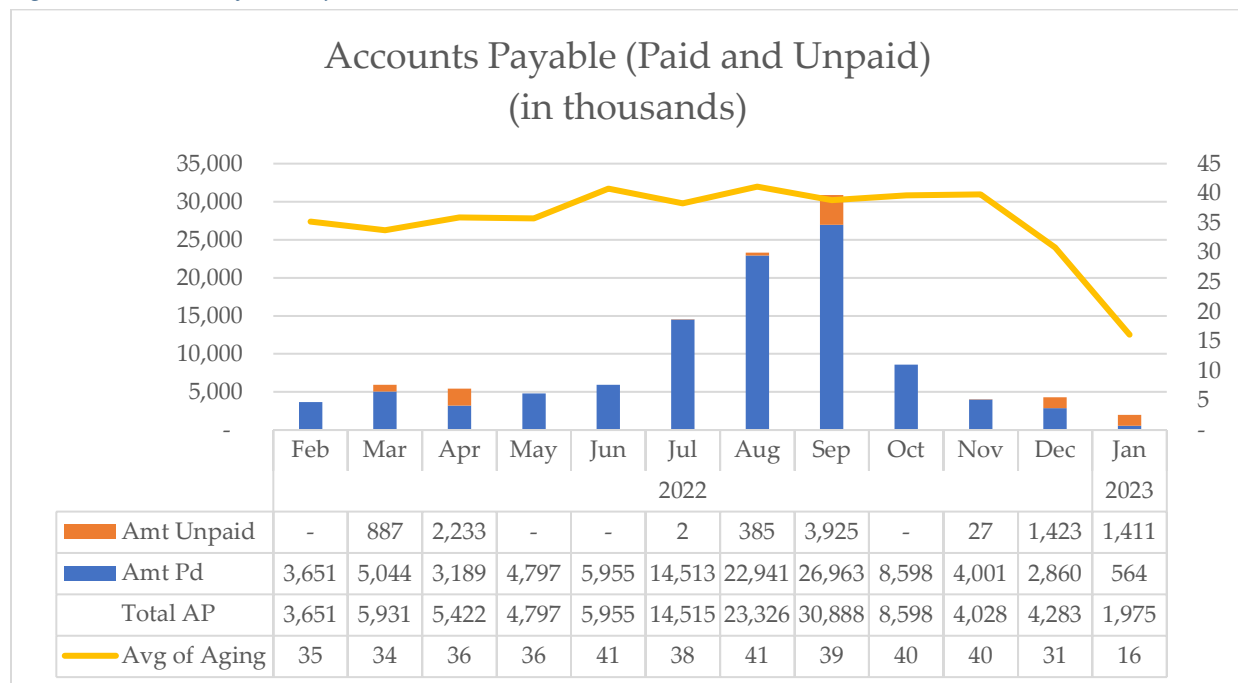
|                                       | 22-Dec     |            | 23-Jan     | 23-Feb     |
|---------------------------------------|------------|------------|------------|------------|
|                                       | Projection | Actual     | Projection | Projection |
| <b>Total Revenue</b>                  | \$36,100   | \$28,579   | \$25,498   | \$36,549   |
| <b>Total Expenditures</b>             | (\$28,402) | (\$16,319) | (\$14,737) | (\$21,408) |
| <b>Net Total Exp/Rev</b>              | \$7,698    | \$12,260   | \$10,762   | \$15,141   |
| <b>Beginning Cash Balance</b>         | \$34,000   | \$34,000   | \$56,516   | \$67,278   |
| <b>End of Month Cash Balance*</b>     | \$41,699   | \$56,516   | \$67,278   | \$82,419   |
| Less: Dedicated Funds                 | (\$11,502) | (\$16,328) | (\$17,037) | (\$17,970) |
| <b>End of Month Main Cash Balance</b> | \$30,197   | \$40,189   | \$50,241   | \$64,450   |
| <b>Available GF Appr</b>              | \$52,677   | \$53,082   | \$58,731   | \$54,379   |
| <b>Available Resources</b>            | \$82,874   | \$93,271   | \$108,971  | \$118,829  |

\* Includes reconciliation for non-cash revenue and expenditure transactions.

### Accounts Payable

The total accounts payable balance decreased \$2.3 million between December and January (Figure 2). ODF’s Disbursements Unit continues to receive a high volume of accounts payable transactions potentially due to additional funding allocated to the agency over the last few legislative sessions. Analysis continues to assess whether the increased volume of off-season transactions is an anomaly or a new normal.

Figure 2 - Accounts Payable as of Jan. 23, 2023



### Accounts Receivable

The total accounts receivable balance decreased by \$10.4 million between December and January due to the 2020 Archie Creek fire reimbursement (Figure 3). Amounts owed by FEMA and federal partners represent \$69.8 million, or 79.5%, of the total accounts receivable outstanding balance.

Accounts aged over 120 days equate to \$64.5 million, or 73.4%, of the total balances owed to ODF (Figure 4). Of these aged accounts, the majority are due from FEMA (\$50.1 million), federal partners (\$6.5 million), and private parties for cost recovery (\$5 million).

Figure 3 – Total Accounts Receivable as of Jan. 23, 2023

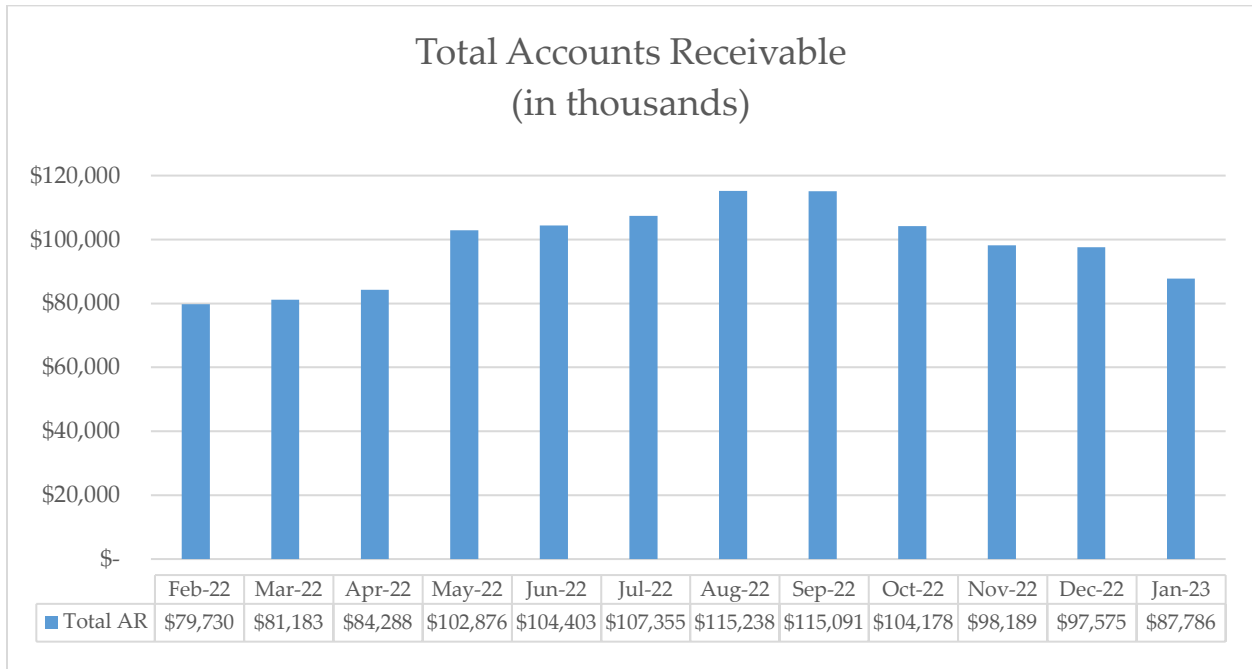
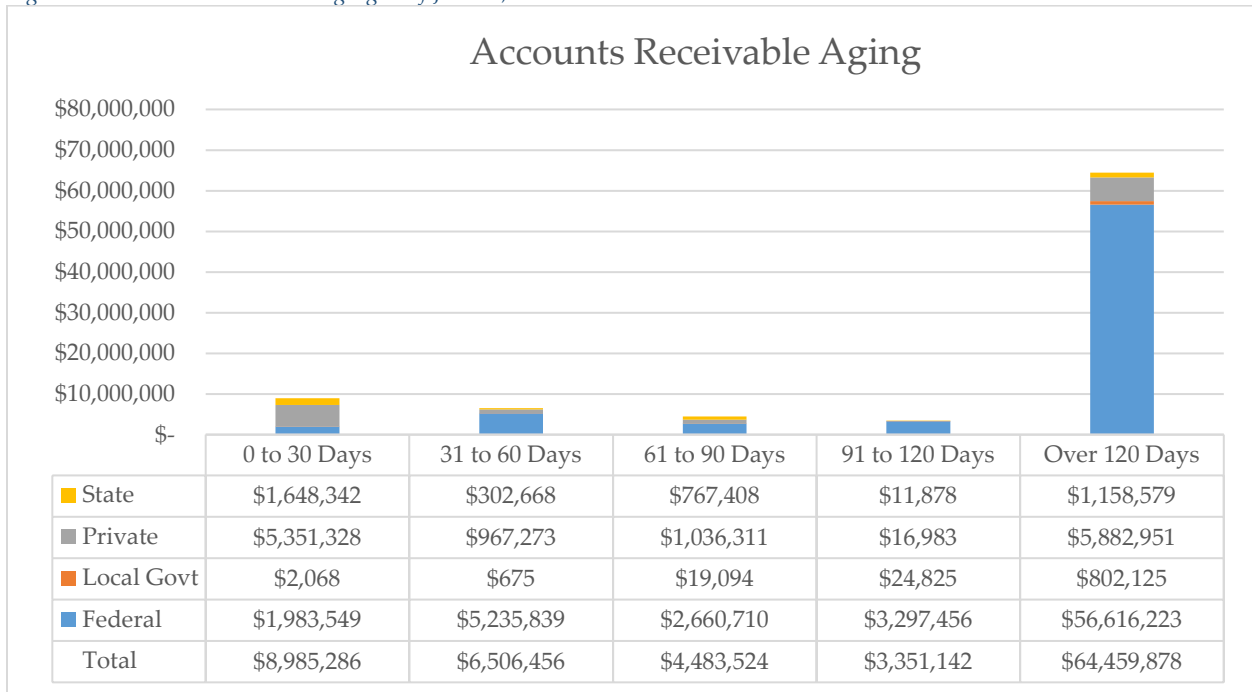


Figure 4 – Accounts Receivable Aging as of Jan. 23, 2023



## Large Fire Costs

The department primarily recovers large fire costs through two FEMA programs. FEMA-PA grants are awarded to ODEM who, in turn, passes the funds through to ODF. FEMA-FMAG grants are awarded directly to ODF, and the department has immediate access to the funds once obligated.

As of Jan. 23, grant applications totaling \$56.9 million have been submitted to and are due from FEMA. Of that total, amounts associated with FEMA-PA grants equate to \$37.6 million and amounts associated with FEMA-FMAG grants equate to \$19.2 million.

The status of the department's 2020 PA grant applications is as follows (listed in the order applications are processed):

- Six grant amendments (\$1.1 million) are with ODEM pending initial grant application.
- One grant (\$864 thousand) is pending FEMA final review.
- Thirty-two grants (\$35.7 million) have been obligated by FEMA and are pending ODEM audit/review and distribution to ODF.

The status of the department's FMAG applications is as follows (listed in the order applications are processed):

- Twelve grants (\$860,000) are pending FEMA initial review.
- One grant (\$477,000) is pending Environmental and Historic Preservation Review.
- One grant (\$1.2 million) is pending assignment to the Large Project Notification Queue.
- Two grants (\$16.7 million) were obligated and the related funds are in transit to ODF.

An additional \$8.8 million in estimated grant applications have yet to be submitted to FEMA. The estimated costs for those applications are as follows:

- Six grants (\$427,000) are related to 2018 FMAG estimated administrative costs.
- One grant (\$180,000) is related to 2019 FMAG estimated administrative costs.
- Two grants (\$805,000) are related to supplemental 2020 FMAG estimated suppression costs.
- Five grants (\$698,000) are related to 2020 PA estimated supplemental suppression costs.
- Three grants (\$424,000) are related to 2020 FMAG estimated administrative costs.
- Two grants (\$5.3 million) are related to 2021 FMAG estimated supplemental suppression costs.
- Three grants (\$898,000) are related to 2022 FMAG estimated suppression and repositioning costs.

Applications associated with administrative costs cannot be submitted to FEMA until all ODF and subrecipient grants have been obligated by FEMA. Applications associated with estimated

suppression costs will be submitted to FEMA after all cost-share reconciliations have been completed.

Not all large fire costs are recovered through FEMA, reimbursement amounts may also be invoiced via cost share agreements, cooperative agreements, and/or private party cost recovery (Table 2).

*Table 2 – Gross Large Fire Cost Summary (red indicates estimates – in millions) as of Jan. 19, 2023*

| <b>Fire Protection Large Fire Cost Summary</b> |             |             |             |             |             |             |              |
|------------------------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------|
| <b>Fire Season</b>                             | <b>2017</b> | <b>2018</b> | <b>2019</b> | <b>2020</b> | <b>2021</b> | <b>2022</b> | <b>Total</b> |
| Fire Costs                                     | 61.35       | 108.09      | 33.66       | 138.82      | 147.47      | 47.43       | 536.82       |
| Currently Invoiced                             | (0.17)      | (0.22)      | (0.24)      | (35.52)     | (22.90)     | (1.35)      | (60.40)      |
| Outstanding to Invoice                         | (0.08)      | (0.38)      | (0.43)      | (2.74)      | (33.05)     | (27.03)     | (63.71)      |

**MGO Update**

In January, the department began a technical collaboration effort with Macias, Gini & O’Connell (MGO) focused on building efficiencies into our cash flow projection tools. This effort builds upon incremental improvements occurring in our financial accounting practices and harnesses the value of having external professional expertise assessing our processes.

Sincerely,



Cal Mukumoto  
 Oregon State Forester

- c:
- Legislative Fiscal Office
- Chief Financial Office
- Oregon State Treasury
- Board of Forestry
- Governor’s Office



March 1, 2023

Sen. Elizabeth Steiner Hayward, Co-Chair  
Rep. Tawna Sanchez, Co-Chair  
Joint Committee on Ways and Means  
900 Court St. NE, H-178  
Salem, OR 97301

Re: Oregon Department of Forestry (ODF)—Monthly financial condition report

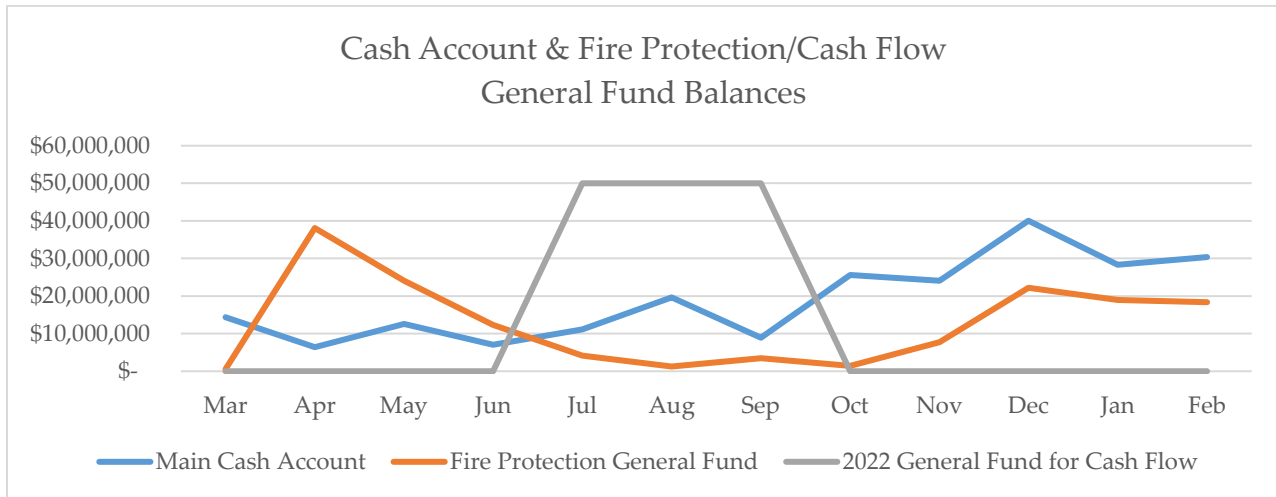
Dear Co-Chairs,

### Cash and General Fund Balances

As of Feb. 21, ODF's main cash account balance was \$30.3 million, and the Protection Division General Fund appropriation balance was \$18.3 million (Figure 1).

Between January and February, the cash account balance had a net increase of \$2 million while the Protection Division General Fund balance had a net decrease of \$595,000.

Figure 1 - Cash Account and Fire Protection/Cash Flow General Fund Balances as of Feb. 21, 2023



## Financial Projections

Net financial activity for January 2023 resulted in a decrease to the department’s end of month main cash balance (Table 1).

Table 1 - Financial Projections through Feb. 23, 2023 (in thousands)

|                                       | 23-Jan     |            | 23-Feb     | 23-Mar     |
|---------------------------------------|------------|------------|------------|------------|
|                                       | Projection | Actual     | Projection | Projection |
| <b>Total Revenue</b>                  | \$25,498   | \$1,885    | \$15,711   | \$19,508   |
| <b>Total Expenditures</b>             | (\$14,737) | (\$12,056) | (\$13,182) | (\$14,188) |
| <b>Net Total Exp/Rev</b>              | \$10,762   | (\$10,171) | \$2,529    | \$5,320    |
| <b>Beginning Cash Balance</b>         | \$56,516   | \$56,516   | \$46,983   | \$49,512   |
| <b>End of Month Cash Balance*</b>     | \$67,278   | \$46,983   | \$49,512   | \$54,832   |
| Less: Dedicated Funds                 | (\$17,037) | (\$18,170) | (\$19,088) | (\$19,466) |
| <b>End of Month Main Cash Balance</b> | \$50,241   | \$28,814   | \$30,424   | \$35,366   |
| <b>Available GF Appr</b>              | \$58,731   | \$57,342   | \$57,281   | \$57,220   |
| <b>Available Resources</b>            | \$108,971  | \$86,156   | \$87,705   | \$92,586   |

\* Includes reconciliation for non-cash revenue and expenditure transactions.

Actual revenue was significantly less than projected revenue primarily due to two projection assumptions:

1. The final reimbursement to the Federal Forest Restoration General Fund appropriation was projected as an expenditure reclassification but was recorded as a reduction to revenue, and
2. Forest patrol assessment revenue for January was calculated based on an average of the prior three months, which resulted in an overstated revenue projection.

Due to the high-level projection model used by the department, challenges exist when trying to isolate financial activity related to correcting entries versus regular business operations. Though all General Fund appropriations have been reimbursed for previous fire season cash flow mitigation usage, ongoing financial reconciliations may result in additional entry corrections between programs and/or funding streams. This is a byproduct of improving internal business processes and enhancing oversight responsibilities to ensure accurate financial reporting, a critical element in reasonably projecting future activity.

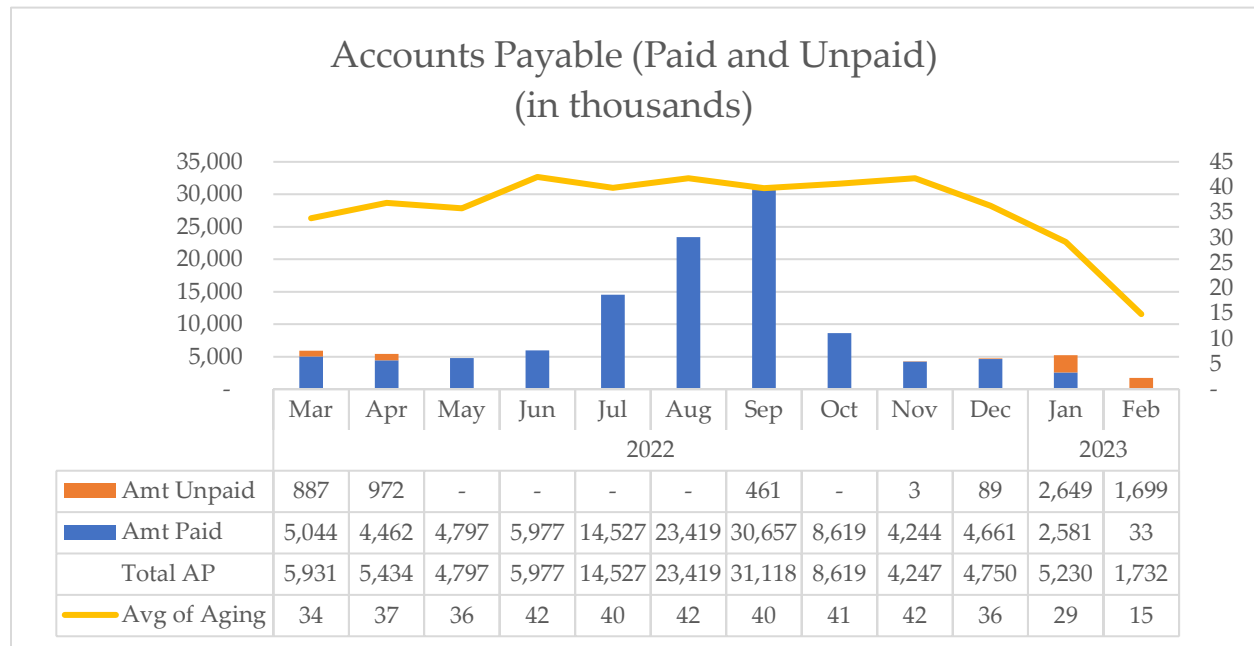
In collaboration with Macias, Gini & O’Connell (MGO), redesigning the department’s projection model through automation and increased transparency is the next step to improving the department’s financial accountability and establishing a sustainable long-term financial planning tool.



### Accounts Payable

The total accounts payable activity between November 2022 and January 2023 averaged \$4.7 million per month (Figure 2). This average is 11.3% less than the \$5.3 million monthly average reported one year prior.

Figure 2 - Accounts Payable as of Feb. 23, 2023

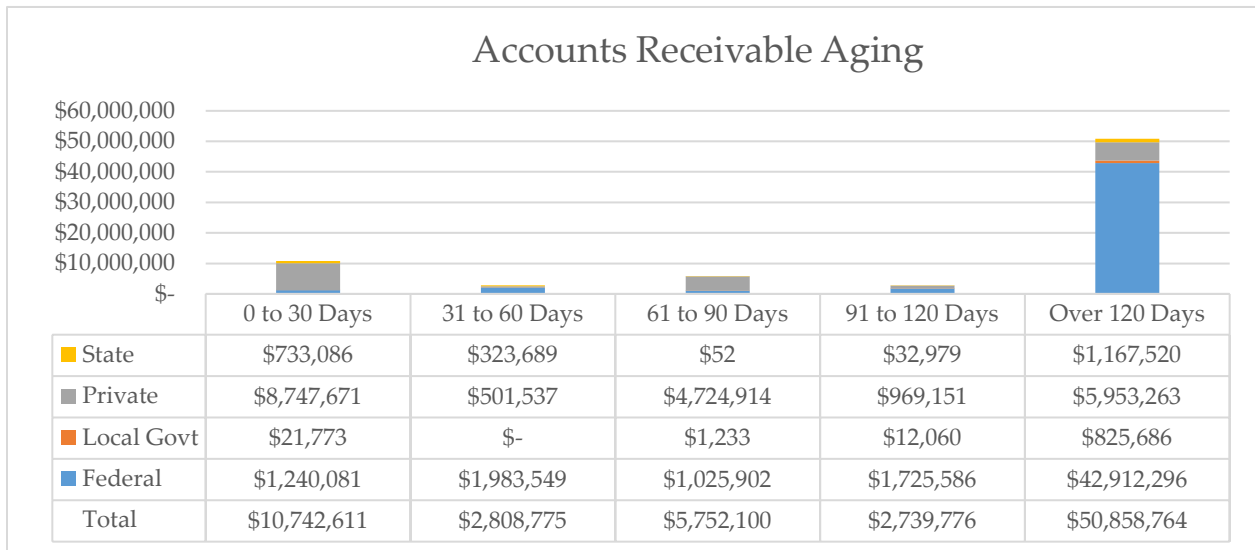


The department experienced a significant increase in travel expense reimbursement requests between November 2022 and February 2023 compared to the prior year. Between November 2021 and February 2022, the ODF Disbursements Unit processed 370 travel expense reimbursements. Between November 2022 and February 2023, the unit processed 865 travel expense reimbursements, an increase of 133.8%. This increase in travel claims are a result of more in person attendance at training and meetings compared with during the pandemic the same events were held virtually.

### Accounts Receivable

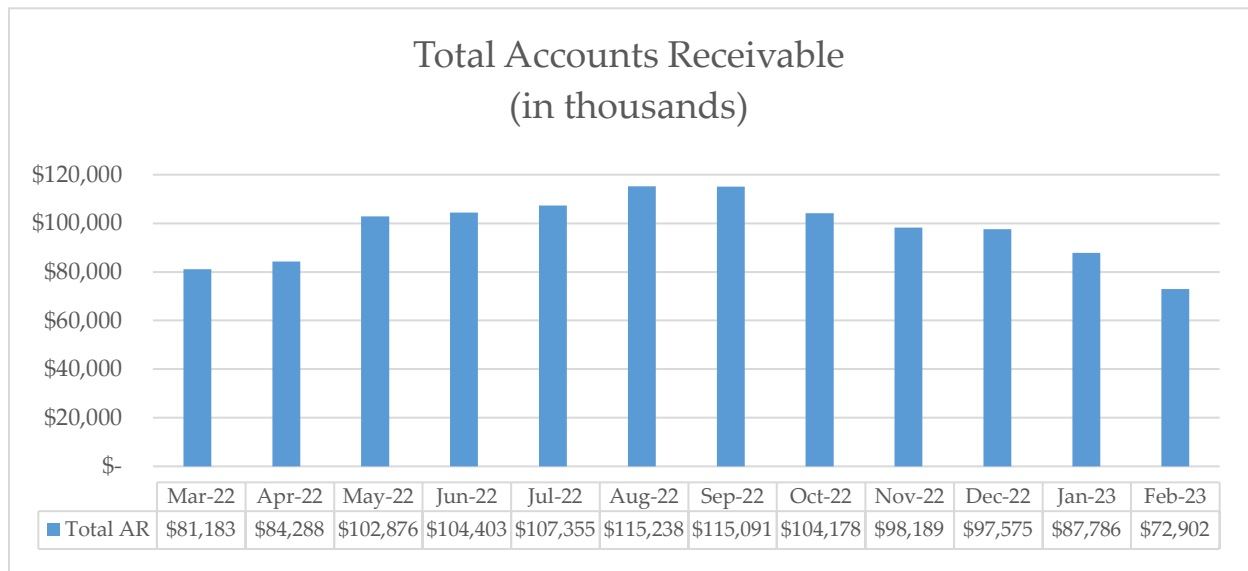
Between January and February, there was a net decrease of \$14.9 million in the total accounts receivable balance (Figure 3). Most notably, the department received a \$16.5 million reimbursement from the FEMA-Fire Management Assistance Grant (FMAG) Program for the 2021 Bootleg fire suppression claim; the account was aged 185 days.

Figure 3 – Total Accounts Receivable as of Feb. 21, 2023



Accounts aged over 120 days equate to \$50.9 million, or 69.8%, of the total balances owed to ODF (Figure 4). Of these aged accounts, the majority are due from FEMA (\$36.5 million), federal partners (\$6.4 million), and private parties for cost recovery (\$6 million).

Figure 4 – Accounts Receivable Aging as of Feb. 21, 2023



## Large Fire Costs

The department primarily recovers large fire costs through two FEMA programs. FEMA-Public Assistance (PA) grants are awarded to ODEM who, in turn, passes the funds through to ODF. FEMA-FMAG grants are awarded directly to ODF, and the department has immediate access to the funds once obligated.

As of Feb. 23, grant applications totaling \$41.8 million have been submitted to and are due from FEMA. Of that total, amounts associated with FEMA-PA grants equate to \$37.7 million and amounts associated with FEMA-FMAG grants equate to \$4.1 million.

The status of the department's 2020 PA grant applications is as follows (listed in the order applications are processed):

- Four grant amendments (\$875,000) are with ODEM pending initial grant application.
- Two grants (\$198,000) are pending FEMA final review.
- Thirty-four grants (\$36.6 million) have been obligated by FEMA and are pending ODEM audit/review and distribution to ODF.

The status of the department's FMAG applications is as follows (listed in the order applications are processed):

- Twelve grants (\$2.2 million) are pending FEMA initial review.
- One grant (\$1.2 million) is pending assignment to the Large Project Notification Queue.
- Four grants (\$755,000) are pending FEMA final review.

An additional \$7.3 million in estimated grant applications have yet to be submitted to FEMA. The estimated costs for those applications are as follows:

- Six grants (\$427,000) are related to 2018 FMAG estimated administrative costs.
- One grant (\$180,000) is related to 2019 FMAG estimated administrative costs.
- One grant (\$180,000) is related to supplemental 2020 FMAG estimated suppression costs.
- Five grants (\$698,000) are related to 2020 PA estimated supplemental suppression costs.
- Three grants (\$424,000) are related to 2020 FMAG estimated administrative costs.
- Two grants (\$5.3 million) are related to 2021 FMAG estimated supplemental suppression costs.
- Three grants (\$33,000) are related to 2021 FMAG estimated administrative costs.
- One grant (\$53,000) is related to 2022 FMAG estimated suppression costs.

Applications associated with administrative costs cannot be submitted to FEMA until all ODF and subrecipient grants have been obligated by FEMA. Applications associated with estimated

suppression costs will be submitted to FEMA after all cost-share reconciliations have been completed.

Not all large fire costs are recovered through FEMA. Reimbursement amounts may also be invoiced via cost share agreements, cooperative agreements, and/or private party cost recovery. All cost recovery types are included in the numbers provided in Table 2.

*Table 2 – Gross Large Fire Cost Summary (red indicates estimates – in millions) as of Feb. 21, 2023*

| <b>Fire Protection Large Fire Cost Summary</b> |             |             |             |             |             |             |              |
|------------------------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------|
| <b>Fire Season</b>                             | <b>2017</b> | <b>2018</b> | <b>2019</b> | <b>2020</b> | <b>2021</b> | <b>2022</b> | <b>Total</b> |
| Fire Costs                                     | 61.35       | 108.09      | 33.66       | 138.79      | 147.64      | 47.70       | 537.23       |
| Currently Invoiced                             | (0.29)      | (0.22)      | (0.24)      | (35.52)     | (5.95)      | (3.48)      | (45.70)      |
| Outstanding to Invoice                         | (0.00)      | (0.38)      | (0.43)      | (2.74)      | (33.06)     | (24.48)     | (61.09)      |

**MGO Update**

The department is continuing collaboration with MGO on building efficiencies into our cash flow projection tools. This recent effort builds upon incremental improvements occurring in our financial accounting practices and harnesses the value of having external professional expertise available.

Sincerely,



Cal Mukumoto  
 Oregon State Forester

c:  
 Legislative Fiscal Office  
 Chief Financial Office  
 Oregon State Treasury  
 Board of Forestry  
 Governor’s Office

|                                 |                                                                                                                  |
|---------------------------------|------------------------------------------------------------------------------------------------------------------|
| <b>Agenda Item No.:</b>         | B                                                                                                                |
| <b>Topic:</b>                   | 2022 Government-to-Government Report on Tribal Relations                                                         |
| <b>Date Presented to Board:</b> | March 8 <sup>th</sup> , 2023                                                                                     |
| <b>Contact Information:</b>     | Dr. Deanna Grimstead, Tribal Government Policy Coordinator,<br>(971) 375-2093, deanna.n.grimstead@odf.oregon.gov |

**SUMMARY**

The Government-to-Government report on Tribal relations summarizes an agency’s annual activities under Oregon Revised Statutes (ORS) 182.162 to 182.168. Pursuant to ORS 182.166(3), this report is due annually to the Governor and the Legislative Commission on Indian Services (LCIS). This report is the Oregon Department of Forestry’s (ODF) submission for the calendar year 2022.

**CONTEXT**

In 2022, ODF prioritized communicating, coordinating, and working with the nine federally recognized Tribes in Oregon and the Nez Perce Tribe in Idaho. ODF’s policies, agreements, training, outreach, and discourse reflect its commitment to respectful communications, relationships, and where applicable, partnerships. An aspect of such respect includes learning from Tribal members and staff, and we recognize strong Tribal relationships are derived from ODF staff who have and hone respect for other cultures and the individual and collective history of the Tribes in Oregon. We provide opportunities to learn and improve upon these skills via education, exposure to and participation in government-to-government interactions, and observing leadership in intergovernmental dynamics.

The report highlights the Department’s efforts to promote and enhance government-to-government relationships with Oregon Tribes by conducting outreach early and often during the development and implementation of programs that may affect Tribes. Only Tribes, as Sovereign Nations, may decide what is of relevance to their specific Tribe and culture. Thus, our work is focused on communicating, consulting, and listening in all aspects of ODF’s work. The report includes the Department’s intent to strengthen intergovernmental relations and appropriately address concerns communicated by Tribes. Direct engagement at a government-to-government and appropriate staff level remains our most effective form of communication, but ensuring we are doing our best to communicate requires the use of all faculties and persistent and ongoing improvement. To this end, the Department added a position completely dedicated to Tribal affairs, which will significantly expand the opportunities in these spaces.

**RECOMMENDATION**

This is an informational item.

**ATTACHMENT**

- (1) ODF 2022 Government-to-Government Report on Tribal Relations



# Oregon

Kate Brown, Governor

## Department of Forestry

State Forester's Office  
2600 State Street  
Salem, OR 97310-1336  
503-945-7200  
FAX 503-945-7212  
[www.oregon.gov/ODF](http://www.oregon.gov/ODF)

December 15, 2022

Governor Kate Brown  
900 Court Street, Suite 254  
Salem, OR 97301-4047

Re: Oregon Department of Forestry 2022 Annual Report to the Legislative Commission on Indian Services

Dear Governor Brown,

The Oregon Department of Forestry respectfully submits its annual report on Tribal Government outreach, communication, and relationship-building activities.

Global events and technological advancements have significantly changed how we communicate, but change brings opportunity. The department now has new and innovative ways to communicate with the nine Federally Recognized Tribes in Oregon. We are also pleased this biennium to add dedicated staff with both policy and archaeological expertise to advance the agency's engagement with the Tribes in Oregon. While this report looks to the past, it also provides a glimpse into future pathways for improvement.

We appreciate your leadership around diversity, equity, and inclusion, and support of improved relationships with Tribes. Please contact me with any questions.

Sincerely,

Cal Mukumoto  
Oregon State Forester



## **2022 Government-to-Government Report on Tribal Relations**

October 1, 2021 – September 30, 2022

The Oregon Department of Forestry respectfully submits its annual report to the nine Federally Recognized Tribes within Oregon. This report also satisfies the requirement to submit an annual report to the Legislative Commission on Indian Services (LCIS) and governor (ORS 182.166).

### **Policy adopted under ORS 182.164**

It is the policy of the Oregon Department of Forestry (ODF) to promote and enhance government-to-government relations with the nine Federally Recognized Tribes of Oregon early and often during the development and implementation of ODF programs that may affect tribes. It is ODF's intent to strengthen intergovernmental relations, address potential concerns, and enhance the exchange of information and resources for the greater good of all Oregonians. This policy provides a framework for government-to-government interactions and opportunities for ongoing staff-to-staff discussions.

### **Process to identify which programs affect Tribes**

The process to identify which programs affect Tribes assumes all programs and programmatic changes affect Sovereign Nations, Tribes, Confederations and Tribal Entities until collaborative communication determines otherwise. Through ongoing communication, ODF, the Board of Forestry, LCIS, and Tribes regularly evaluate the effects and determine necessary adjustments. Often, programmatic changes are legislatively mandated, which require more in-depth LCIS involvement to make these assessments and meet requirements. Currently, these identified programs for ODF include, fire protection, forest health, state forests, private forests and multi-agency initiatives surrounding climate change, fire resiliency and ecosystem resiliency.

### **Promoting communications and relationships with Tribes**

ODF's government-to-government relations policy was written with the intent of recognizing the importance of communication in cultivating and tending relationships. Actualization of this policy requires early and frequent communication with Tribes and Confederations of Tribes throughout all agency structures. It also requires clear communication internally to ensure the government-to-government communications are being heard. Listening is an important and respectful aspect of communication, which is a very intentional and direct goal of ODF. As a

department, we are working on listening in the various arenas of government-to-government communications.

### **General Agency Communications**

- Each year, the state forester sends a letter to the nine Federally Recognized Tribes in Oregon. The letter includes upcoming department and Board of Forestry initiatives and provides a quick outlook for upcoming engagement opportunities.
- The department participates in many of the state working groups, clusters, and taskforces, including LCIS.
- The Agency submits this annual report to the LCIS, which aims to build upon previous outreach and partnerships to inform ODF's future communication efforts.

### **Fire Protection and Area Communication and Relationships**

- The ODF to Bureau of Indian Affairs (BIA) wildfire prevention and protection agreement on Tribal Trust Lands has expired. The agency is actively seeking renewal and encourages Tribes to directly engage both agencies.
- ODF kept 96% of fires within ODF protected lands below 10 acres.
- There are open communication lines between ODF field districts, units, fire protection associations, and Tribal governments and/or staff in several regions.
- Tribal representatives were actively involved in the administrative rulemaking process for the statewide wildfire risk map and the Certified Burn Manager Program.
- The Central Oregon District's (COD) relationship with the Confederated Tribes of Warm Springs (CTWSR) is vast, including regular standing committees and groups, annual trainings, pre-fire season preparation, and planning meetings.
- Through the landscape resiliency program, 60 acres of fuels treatment occurred on Warm Springs' fee lands and surrounding areas.
- As a result of regular meetings and open lines of communications, the West Oregon District (WOD) relationships with the Confederated Tribes of Grand Ronde (CTGR) and Confederated Tribes of Siletz Indians (CTSI) remains strong.
- The Northeast Oregon District (NEO) continues communications and agreement participation surrounding fire protection, the private forest accord, and private landowner relationships with the Confederated Tribes of the Umatilla Indian Reservation (CTUIR). In this region, BIA and ODF collaboration and agreements significantly expand protection capacities, including into the Nez Pierce's areas of ancestral interest and Washington Department of Natural Resources protection areas. The Blue Mountain Interagency Dispatch Center is the hub for these communications and relationships during fire season.



## **State Forests**

- The CTSI worked with West Oregon District (WOD) staff to develop an agreement/permit to facilitate the construction of a road segment on State Forest lands, which would allow access to CTSI forest land management.
- The State Forest Division invited the CTSI to present at the 2022 State Forests Workshop to educate department personnel on CTSI ancestral land history, relationships and traditional management practices.
- The State Forests Program extended special-use permits to the Confederated Tribe of the Coos, Lower Umpqua and Siuslaw Indians (CTCLUSI) to collect vegetation for cultural use on portions of ODF-managed land adjacent to the Elliot State Research Forest through 2027.
- Staff reached out to natural and cultural resources staff from the nine Federally Recognized Tribes to seek input on timber sales and other management activities planned for fiscal year 2023 (Annual Operations Plans).
- The State Forests Program utilized the Government-to-Government Cultural Resources and Natural Resources Cluster Workgroups to discuss and receive input from tribes to:
  - Develop cultural resources goals and strategies for the new Forest Management Plan.
  - Provide updates on upcoming work to revise 10-year implementation plans and the Western Oregon State Forests Habitat Conservation Plan.
  - Continue working directly with Tribes to integrate their interests in State Forests planning and implementation processes at every level.
- Tillamook Forest Center (TFC) interpretation and education staff attended the annual Confederated Tribes of the Grand Ronde Education Summit as a continued effort toward strengthening Tribal partnerships and incorporating the Tribal Essential Understandings of Oregon Native Americans into forestry field trips and interpretive services and displays at the TFC and across state forest lands.

## **Forest Resources Division**

- The Forest Health unit collaborates with the CTGR on the Pacific Northwest Forest Pollinator Subcommittee of the Oregon Bee Project. Collaborative efforts included Western redcedar dieback detection and guidance, emerald ash borer detection and biomass utilization for cultural means, and forest pollinator research and habitat enhancement.
- The division consulted CTCLUSI, CTGR, Oregon State Tribal Liaison, and others during the development of a Tribal youth career outreach program.
- The Natural Resource Working Group and Cultural Resource Cluster were used as avenues for communication of the changes to the Private Forest Accord.
- CTGR supports the Tualatin Mountain Forest Legacy Project, which seeks to protect 40 acres of old growth forest.

### Training opportunities and other educational events

The department looks forward to the resumption of annual Oregon Department of Administrative Services training to state agency managers and employees on the legal status of Tribes, the legal rights of Tribal members and issues of concern to Tribes.

### Employee notification on the provisions of ORS 182.162 – 182.168 and the department policy on Tribal Government relations

The department has a government-to-government workgroup composed of field and headquarters staff. The role of the workgroup is to create an environment for continued learning, communication, and implementation of the agency’s government-to-government policy and procedures. In 2022, a Tribal Government Policy Coordinator was added to the department and the workgroup. One responsibility of the position will be the development and implementation of initiatives and training related to agency activities and Tribal Relations.

### Individuals responsible for programs that affect Tribes

The agency’s Tribal Liaison is Deputy State Forester Kyle Abraham. Cindy Kolomechuk, State Forests Project Manager; Keith Baldwin, Forest Resources Division Field Coordinator; and Dr. Deanna Grimstead, Tribal Government Policy Coordinator, support the tribal liaison. Members of the Executive Team are the senior leaders responsible for the agency’s operational and administrative programs.

### Executive Team

|                                                                                                                                                  |                                                                                                                                                         |                                                                                                                                                            |
|--------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Cal Mukumoto,<br>Oregon State Forester<br>503-945-7211<br><a href="mailto:cal.t.mukumoto@odf.oregon.gov">cal.t.mukumoto@odf.oregon.gov</a>       | Kyle Abraham, Deputy State Forester<br>& Tribal Liaison<br>503-945-7482<br><a href="mailto:Kyle.Abraham@odf.oregon.gov">Kyle.Abraham@odf.oregon.gov</a> | Ryan Gordon, Director<br>Planning Branch<br>503-945-7393<br><a href="mailto:Ryan.P.Gordon@odf.oregon.gov">Ryan.P.Gordon@odf.oregon.gov</a>                 |
| Josh Barnard, Division Chief<br>Forest Resources<br>503-945-7493<br><a href="mailto:Josh.Barnard@odf.oregon.gov">Josh.Barnard@odf.oregon.gov</a> | Michael Shaw, Division Chief<br>Fire Protection<br>503-945-7204<br><a href="mailto:Michael.H.Shaw@odf.oregon.gov">Michael.H.Shaw@odf.oregon.gov</a>     | Mike Wilson, Division Chief<br>State Forests<br>503-945-7351<br><a href="mailto:Michael.Wilson@odf.oregon.gov">Michael.Wilson@odf.oregon.gov</a>           |
| Joy Krawczyk<br>Public Affairs Manager<br>503-945-7487<br><a href="mailto:Joy.Krawczyk@odf.oregon.gov">Joy.Krawczyk@odf.oregon.gov</a>           | Tricia Kershaw<br>Human Resources Manager<br>503-945-7296<br><a href="mailto:Patricia.E.Kershaw@odf.oregon.gov">Patricia.E.Kershaw@odf.oregon.gov</a>   | Dave Larson<br>Southern Oregon Area Director<br>541-621-4101<br><a href="mailto:Dave.Larson@odf.oregon.gov">Dave.Larson@odf.oregon.gov</a>                 |
| Brian Pew<br>Eastern Oregon Area Director<br>541-233-8741<br><a href="mailto:Brian.Pew@odf.oregon.gov">Brian.Pew@odf.oregon.gov</a>              | Andy White<br>Northwest Oregon Area Director<br>503-359-7496<br><a href="mailto:Andrew.T.White@odf.oregon.gov">Andrew.T.White@odf.oregon.gov</a>        | James Short, Assistant Deputy<br>Director for Administration<br>503-945-7275<br><a href="mailto:James.Short@odf.oregon.gov">James.Short@odf.oregon.gov</a> |

|                       |                                                                                                                                      |
|-----------------------|--------------------------------------------------------------------------------------------------------------------------------------|
| Agenda Item No.:      | C                                                                                                                                    |
| Work Plan:            | Administrative Work Plan                                                                                                             |
| Topic:                | Administrative Processes                                                                                                             |
| Presentation Title:   | Approval of Agency Director Financial Transactions, Fiscal Year 2022                                                                 |
| Date of Presentation: | March 8, 2023                                                                                                                        |
| Contact Information:  | James D. Short, Chief Financial Officer<br>(503) 302-8478 <a href="mailto:james.short@odf.oregon.gov">james.short@odf.oregon.gov</a> |

**SUMMARY**

The purpose of this agenda item is to meet the requirements of statewide policy by having the Board review and approve transactions submitted by the State Forester, Cal Mukumoto, former Acting State Forester, Nancy Hirsch, and former State Forester, Peter Daugherty, for Fiscal Year 2022.

**CONTEXT**

Oregon Department of Administrative Services policy 10.90.00 regarding internal controls requires the review and approval of certain financial transactions of the State Forester.

The financial transactions involved include:

- The director’s monthly time report (including the use of leave time).
- Travel expense reimbursement claims.
- Purchase card use approvals.
- Requests for vacation leave payoff.

As provided in the policy, by previous action, the Board has delegated the day-to-day review and approvals of these transactions to the Deputy State Forester, with an annual review by the Board of Forestry.

**RECOMMENDATION**

The Department recommends the Board of Forestry review and approve the travel expense transactions and the leave usage transactions submitted by the State Forester, Cal Mukumoto, former Acting State Forester, Nancy Hirsch, and former State Forester, Peter Daugherty for Fiscal Year 2022, as summarized in Attachment 1, State Forester's Travel Claims Summary, and Attachment 2, State Forester’s Leave Usage Summary.

There were no purchase card transactions or requests for vacation leave payoff in this time period. The State Forester will also have transactions reported in the following fiscal year.

**ATTACHMENTS**

- (1) State Forester’s Travel Claims Summary, Fiscal Year 2022
- (2) State Forester’s Leave Usage Summary, Fiscal Year 2022

**State Forester's Travel Claims Summary Fiscal Year 2022  
July 1, 2021 through June 30, 2022**

| <b>Traveler</b>    | <b>Destination</b>                           | <b>Claim Total (\$)</b> | <b>Depart Date</b> | <b>Return Date</b> | <b>Purpose of Trip</b>                    |
|--------------------|----------------------------------------------|-------------------------|--------------------|--------------------|-------------------------------------------|
| Nancy Hirsch       | Canyonville<br>OR                            | 27.50                   | 7/6/21             | 7/7/21             | ET Strategic Quarterly Planning Session   |
| Nancy Hirsch       | Hood River<br>OR                             | 82.50                   | 9/15/21            | 9/16/21            | ET Strategy Session                       |
| Nancy Hirsch       | Lakeview<br>OR                               | 82.50                   | 9/20/21            | 9/21/21            | Klamath Lake District Tour                |
| Nancy Hirsch       | Tillamook,<br>OR                             | 99.87                   | 11/29/21           | 11/29/21           | South Fork Forest Camp, Training          |
| Calvin<br>Mukumoto | Astoria,<br>Redmond,<br>Portland,<br>Bend OR | 650.70                  | 4/10/22            | 4/28/22            | Clatsop Forest Tour, Meetings             |
| Calvin<br>Mukumoto | Sisters,<br>Klamath<br>Falls,<br>Newport OR  | 234.21                  | 5/5/22             | 5/26/22            | Tours, Green Diamond Visit, Staff Meeting |
| Calvin<br>Mukumoto | Tillamook,<br>The Dalles<br>OR               | 193.61                  | 6/5/22             | 6/16/22            | Tours, LT Meeting                         |
|                    | <b>TOTAL</b>                                 | 1,370.89                |                    |                    |                                           |

\*These expenditures do not include direct payment to vendors by the Department of Forestry for travel and lodging.

**State Forester's Leave Usage Summary, Fiscal Year 2022**  
**July 1, 2021 through June 30, 2022**  
**(Hours)**

**Peter Daugherty**

| <b>Period</b> | <b>Sick Leave</b> | <b>Vacation Leave</b> | <b>Governor's Leave</b> | <b>Personal Business Leave</b> | <b>Misc. Paid Leave</b> | <b>Donated/ Lost Leave</b> | <b>Total Leave by Month</b> |
|---------------|-------------------|-----------------------|-------------------------|--------------------------------|-------------------------|----------------------------|-----------------------------|
| July-21       | 28.50             | 139.5                 | 0                       | 0                              | 0                       | 0                          | <b>168.00</b>               |
| Aug-21        | 0                 | 0                     | 0                       | 0                              | 0                       | 0                          | <b>0</b>                    |
| Sept-21       | 0                 | 0                     | 0                       | 0                              | 0                       | 0                          | <b>0</b>                    |
| Oct-21        | 0                 | 0                     | 0                       | 0                              | 0                       | 0                          | <b>0</b>                    |
| Nov-21        | 0                 | 0                     | 0                       | 0                              | 0                       | 0                          | <b>0</b>                    |
| Dec-21        | 0                 | 0                     | 0                       | 0                              | 0                       | 0                          | <b>0</b>                    |
| Jan-22        | 0                 | 0                     | 0                       | 0                              | 0                       | 0                          | <b>0</b>                    |
| Feb-22        | 0                 | 0                     | 0                       | 0                              | 0                       | 0                          | <b>0</b>                    |
| Mar-22        | 0                 | 0                     | 0                       | 0                              | 0                       | 0                          | <b>0</b>                    |
| Apr-22        | 0                 | 0                     | 0                       | 0                              | 0                       | 0                          | <b>0</b>                    |
| May-22        | 0                 | 0                     | 0                       | 0                              | 0                       | 0                          | <b>0</b>                    |
| Jun-22        | 0                 | 0                     | 0                       | 0                              | 0                       | 0                          | <b>0</b>                    |
| <b>Total</b>  | <b>28.50</b>      | <b>139.50</b>         | <b>0</b>                | <b>0</b>                       | <b>0</b>                | <b>0</b>                   | <b>168.00</b>               |

*\*Hours reported in table are limited to time serving as Acting State Forester in Fiscal Year 2022*

**State Forester's Leave Usage Summary, Fiscal Year 2022**  
**July 1, 2021 through June 30, 2022**  
**(Hours)**

**Cal Mukumoto**

| <b>Period</b> | <b>Sick Leave</b> | <b>Vacation Leave</b> | <b>Governor's Leave</b> | <b>Personal Business Leave</b> | <b>Misc. Paid Leave</b> | <b>Donated/ Lost Leave</b> | <b>Total Leave by Month</b> |
|---------------|-------------------|-----------------------|-------------------------|--------------------------------|-------------------------|----------------------------|-----------------------------|
| July-21       | 0                 | 0                     | 0                       | 0                              | 0                       | 0                          | <b>0</b>                    |
| Aug-21        | 0                 | 0                     | 0                       | 0                              | 0                       | 0                          | <b>0</b>                    |
| Sept-21       | 0                 | 0                     | 0                       | 0                              | 0                       | 0                          | <b>0</b>                    |
| Oct-21        | 0                 | 0                     | 0                       | 0                              | 0                       | 0                          | <b>0</b>                    |
| Nov-21        | 0                 | 0                     | 8.00                    | 0                              | 0                       | 0                          | <b>8.00</b>                 |
| Dec-21        | 0                 | 0                     | 0                       | 0                              | 0                       | 0                          | <b>0</b>                    |
| Jan-22        | 4.00              | 0                     | 0                       | 0                              | 0                       | 0                          | <b>4.00</b>                 |
| Feb-22        | 0                 | 0                     | 0                       | 0                              | 0                       | 0                          | <b>0</b>                    |
| Mar-22        | 0                 | 0                     | 8.00                    | 0                              | 0                       | 0                          | <b>8.00</b>                 |
| Apr-22        | 0                 | 0                     | 0                       | 0                              | 0                       | 0                          | <b>0</b>                    |
| May-22        | 0                 | 0                     | 0                       | 12.00                          | 0                       | 0                          | <b>12.00</b>                |
| Jun-22        | 0                 | 6.00                  | 0                       | 12.00                          | 0                       | 0                          | <b>18.00</b>                |
| <b>Total</b>  | <b>4.00</b>       | <b>6.00</b>           | <b>16.00</b>            | <b>24.00</b>                   | <b>0</b>                | <b>0</b>                   | <b>50.00</b>                |

**Acting State Forester's Leave Usage Summary, Fiscal Year 2022**  
**July 1, 2021 through June 30, 2022\***  
**(Hours)**

**Nancy Hirsch**

| <b>Period</b> | <b>Sick Leave</b> | <b>Vacation Leave</b> | <b>Governor's Leave</b> | <b>Personal Business Leave</b> | <b>Misc. Paid Leave</b> | <b>Donated/ Lost Leave</b> | <b>Total Leave by Month</b> |
|---------------|-------------------|-----------------------|-------------------------|--------------------------------|-------------------------|----------------------------|-----------------------------|
| July-21       | 0                 | 0                     | 0                       | 0                              | 0                       | 0                          | <b>0</b>                    |
| Aug-21        | 0                 | 0                     | 0                       | 13.50                          | 0                       | 0                          | <b>13.50</b>                |
| Sept-21       | 4.00              | 4.00                  | 0                       | 2.50                           | 0                       | 0                          | <b>10.50</b>                |
| Oct-21        | 0                 | 39.00                 | 0                       | 0                              | 0                       | 0                          | <b>39.00</b>                |
| Nov-21        | 2.00              | 56.00                 | 0                       | 0                              | 0                       | 0                          | <b>58.00</b>                |
| Dec-21        | 0                 | 0                     | 0                       | 0                              | 0                       | 0                          | <b>0</b>                    |
| Jan-22        | 0                 | 0                     | 0                       | 0                              | 0                       | 0                          | <b>0</b>                    |
| Feb-22        | 0                 | 0                     | 0                       | 0                              | 0                       | 0                          | <b>0</b>                    |
| Mar-22        | 0                 | 0                     | 0                       | 0                              | 0                       | 0                          | <b>0</b>                    |
| Apr-22        | 0                 | 0                     | 0                       | 0                              | 0                       | 0                          | <b>0</b>                    |
| May-22        | 0                 | 0                     | 0                       | 0                              | 0                       | 0                          | <b>0</b>                    |
| Jun-22        | 0                 | 0                     | 0                       | 0                              | 0                       | 0                          | <b>0</b>                    |
| <b>Total</b>  | <b>6.00</b>       | <b>99.00</b>          | <b>0</b>                | <b>16.00</b>                   | <b>0</b>                | <b>0</b>                   | <b>121.00</b>               |

*\*Hours reported in table are limited to time serving as Acting State Forester in Fiscal Year 2022*

|                       |                                                                                                                                                          |
|-----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|
| Agenda Item No.:      | D                                                                                                                                                        |
| Work Plan:            | Fire Protection Work Plan                                                                                                                                |
| Topic:                | Ongoing Topic: Rangeland Protection Association Formation                                                                                                |
| Presentation Title:   | Approval to Form Grizzly Rangeland Protection Association                                                                                                |
| Date of Presentation: | Mach 8 <sup>th</sup> , 2023                                                                                                                              |
| Contact Information:  | Levi Hopkins, Wildfire Prevention and Policy Manager<br>(503) 949-3572, <a href="mailto:Levi.a.hopkins@odf.oregon.gov">Levi.a.hopkins@odf.oregon.gov</a> |

**SUMMARY**

The purpose of this agenda item is to obtain Board approval to proceed with bringing specific areas of southern Jefferson County, into the Oregon Protection System.

**CONTEXT**

Rangeland fire protection associations are non-profit, locally governed groups of landowners which have been organized to provide fire protection to rangeland in portions of eastern Oregon. These organizations are formed under the authority of the Board and with assistance from the Department.

Currently, there are 27 Rangeland Protection Associations (RPA) that have previously been approved by the Board of Forestry. The most recent being the Petersburg RPA which was formed in January of 2023. These RPAs protect over 4,855,598 acres of private land and approximately 639, 982 acres of state-owned lands. These lands, including federally owned land, combine to encompass over 16 million acres.

Several representatives of rangeland owners in Jefferson County have requested the Board hold a public hearing about providing protection from fire for rangelands in the vicinity of Madras, Oregon. The Board, on January 4<sup>th</sup> , 2023, authorized a public hearing on the formation request, pursuant to ORS 477.320. A hearing was held at 6712 SE Ramms Rd in Madras, Oregon, on February 3<sup>rd</sup> , 2023.

At the hearing, strong support for the formation of an association was evident in the immediate area. Testimony presented during the hearing indicated a need for organized fire protection, and the local landowners want to assist local wildland agencies with initial attack to prevent more large fires in the area.

These landowners want a way to protect their private property and actively take part in the protection of their lands. The increased level of protection for this area can be achieved by bringing it into the Oregon protection system and forming a rangeland protection association.



## **RECOMMENDATION**

The Department recommends the Board take the following action when it meets on March 8<sup>th</sup>, 2023:

Approve the inclusion of rangeland in portions of southern Jefferson County into a rangeland protection association and direct the Department to assist with the formation of the Grizzly Rangeland Protection Association, pursuant to ORS 477.320.

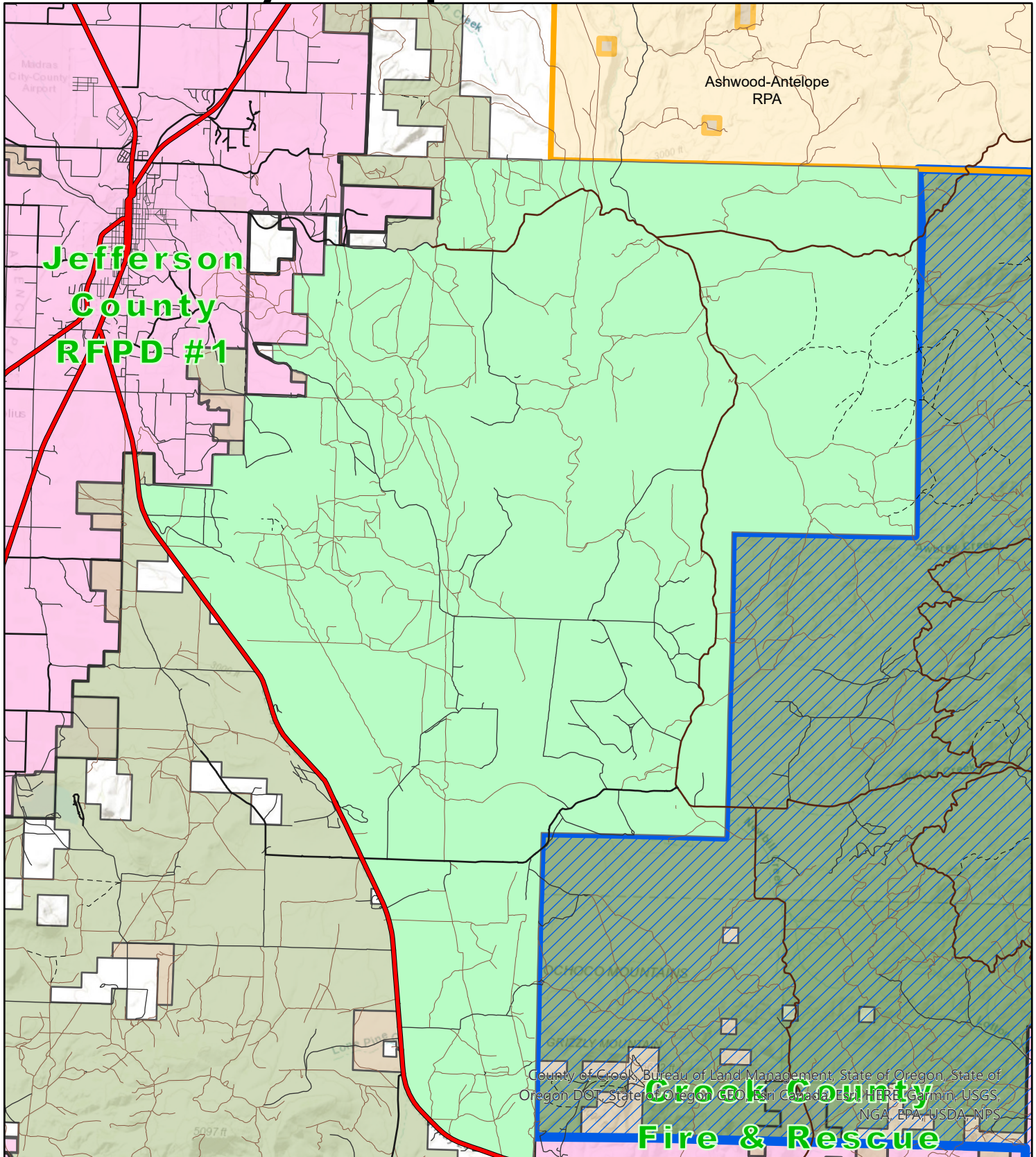
## **NEXT STEPS**

The Department will work with local landowners in the area to form the Grizzly Rangeland Protection Association. This will include developing mutual aid agreements, providing training as requested, offering Federal Excess Personal Property (FEPP) program equipment as available, and any other assistance as requested and feasible.

## **ATTACHMENTS**

- (1) Grizzly Rangeland Association boundary map
- (2) Grizzly Rangeland Association Formation Public Hearing sign-in sheet
- (3) Grizzly Rangeland Association Formation Public Hearing Report
- (4) Letter of Support

# Grizzly Proposed RFPA



- |                       |                                           |                                    |
|-----------------------|-------------------------------------------|------------------------------------|
| <b>Road Types</b>     | — In UGB; Paved - Secondary Display Layer | ▣ Other Federal                    |
| <b>PDMclass</b>       | — Mainline Rd                             | ▣ Rangeland Protection Association |
| — Interstate; Highway | — Hiking trail                            | ▣ USFS                             |
| — Paved; Highway exit | — 4wd trail                               | ▣ ODF Forest Protection Districts  |
| — All weather         |                                           | ▣ GrizzlyProposedRFPA              |
| — Dirt                |                                           |                                    |
|                       | <b>Protection Status 2021</b>             |                                    |
|                       | ▣ Structural Fire Protection              |                                    |
|                       | ▣ BLM                                     |                                    |
|                       | ▣ Forest Protection Association           |                                    |
|                       | ▣ No known protection                     |                                    |

Grizzly  
**PUBLIC HEARING PARTICIPATION RECORD**  
**REQUEST TO EXPAND THE "SILVER CREEK RFPA BOUNDARY" AREA INTO THE OREGON PROTECTION SYSTEM UNDER**  
**ORS 477.320**

Location: 6712 Ramms Rd Date: Feb 3, 2023 Time: 1718

**PLEASE PRINT**

| NAME & ORGANIZATION                                | MAILING ADDRESS                         | TESTIMONY SUBMITTED |      |   |
|----------------------------------------------------|-----------------------------------------|---------------------|------|---|
|                                                    |                                         | WRITTEN             | ORAL |   |
| Brent Fessler<br>Grizzly RFPA <del>president</del> | P.O. box 729 Madras, OR 97741           |                     | ✓    | X |
| Simon Winters<br>8900 S.E. Grizzly Rd              | 8900 S.E. Grizzly Rd. Madras            |                     | ✓    | X |
| BOB RUFENER<br>9452 SE GRIZZLY RD M                | 9452 SE GRIZZLY RD<br>MADRAS, OR 97741  |                     | ✓    | X |
| Julie Rufener                                      | 9452 SE Grizzly Rd<br>Madras, OR 97741  |                     |      |   |
| Kim Rufener                                        | 9452 SE Grizzly Rd<br>Madras, OR 97741  |                     |      |   |
| Guy Corwin                                         | 522 Slenic Loop<br>Silver, OR 97734     |                     | ✓    |   |
| Dustin Corwin                                      | " "                                     |                     | ✓    | X |
| Mark Wunsch<br>JC Commissioner                     | 12274 SE Grizzly Rd<br>Madras, OR 97741 |                     | ✓    |   |
| MIKE COOKINGHAM<br>TAMMY COOKINGHAM                | 6712 SE RAMMS RD<br>MADRAS, OR 97741    |                     | ✓    |   |
| County Commissioners                               |                                         | X                   |      |   |

**Date:** February 3rd, 2023  
**To:** Oregon Board of Forestry  
**From:** Cassie Adamson, Rangeland Fire Protection Administrative Specialist  
**Subject:** Hearing Officer's Report on Grizzly Landowner Hearing ORS 477.320(1)

### **Hearing Information**

**Proposed Area:** Southern Jefferson County  
**Hearing Date & Time:** February 3<sup>rd</sup>, 2023 5:00 PM  
**Hearing Location:** 6712 SE Ramms Rd, Madras, OR 97741  
**Written Comments Due:** February 10<sup>th</sup>, 2023  
**Hearing Authorized:** Board of Forestry meeting, January 4<sup>th</sup>, 2023  
**Hearing Officer:** Marvin J. Vetter, Rangeland Fire Protection Coordinator

The Public Hearing on the proposal to bring the Grizzly area into the Oregon Protection System was formally convened at 5:18 p.m. at the 6712 SE Ramms Rd after a discussion regarding the proposal. Registration forms were available for people who wished to provide oral comments on the proposed formation. The hearing was closed at 5:27 p.m.

There were 10 people in attendance and 9 of them were local landowners, 7 landowners signed up to provide oral comments on the participation record. This included one representative from the Jefferson Co. Commissioner that spoke in support.

### **Summary of Oral Comments**

Community interest in the formation of the proposed Grizzly Rangeland Protection Association is high and is strongly supported by landowners and the County. There is also support from the local wildland fire agencies (Local, State, and Federal). A Board of Directors has been established. Additionally, a set of by-laws has been established, corporate legal status has been applied for and received, a bank account has been established, funds have been raised, and commitments of time and equipment and training are being lined up for them to be ready by the 2023 fire season.

Landowners and residents of the area are increasingly worried about the incidence of rangeland fire. These landowners want a way to protect their private property and actively take part in the protection of their lands and livestock. The increased level of protection for this area can be achieved by bringing it into the Oregon Protection System and forming a Rangeland Protection Association.

There were no concerns or opposition expressed for the proposed RPA formation. Oral testimony was in full support of bringing these lands into the Rangeland Protection System and forming a Rangeland Protection Association.

### **Summary of Written Comments**

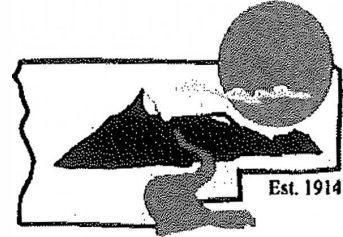
The Jefferson County Commissioners were in full support of the RFPA forming within their county.

/s/ Cassie Adamson  
Cassie Adamson

Rangeland Fire Protection Administrative Specialist  
Eastern Oregon Area

# JEFFERSON COUNTY BOARD OF COMMISSIONERS

66 S.E. "D" St., Suite A • Madras, Oregon 97741 • Ph: (541) 475-2449 • FAX: (541) 475-4454



February 1, 2023

Oregon Department of Forestry  
2600 State Street  
Salem, Or 97310

RE: Grizzly RFPA

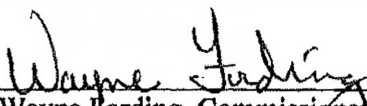
Fire Risk management is a high concern in the high desert landscape of Jefferson County. The citizens of the Grizzly area are forming a Rangeland Fire Protection Associations. This RFPA will protect roughly 30,000 areas of previously unprotect lands with a local grass roots organization approach.


- Have met with ODF
- Registered with the state of Oregon and been assigned and EIN
- Working on their 501(c) 3 status and bank account
- Scheduled a public hearing for mutual aid agreements with ODF and BLM
- Working with Ashwood/Antelope RFPA with mutual aid

The Jefferson County Board of Commissioners are in full support of protecting and minimizing the risk of wildfires on our sensitive landscape. The Jefferson County Board of Commissioners supports the formation of the Grizzly Rangeland Fire Protection Association pursuant to ORS 477.315(2)(b). The Board finds that the organization of the Grizzly RFPA would be a cost-neutral part of our emergency management program and the area proposed to be included in the Association is not currently protected by a rangeland protection association. Please contact the Board Chair or Jefferson County Emergency Management Coordinator, Sergeant David Pond, with any question.

Sincerely,

  
\_\_\_\_\_  
Kelly Simmelink, Chairman

  
\_\_\_\_\_  
Wayne Fording, Commissioner

  
\_\_\_\_\_  
Mark Wunsch, Commissioner

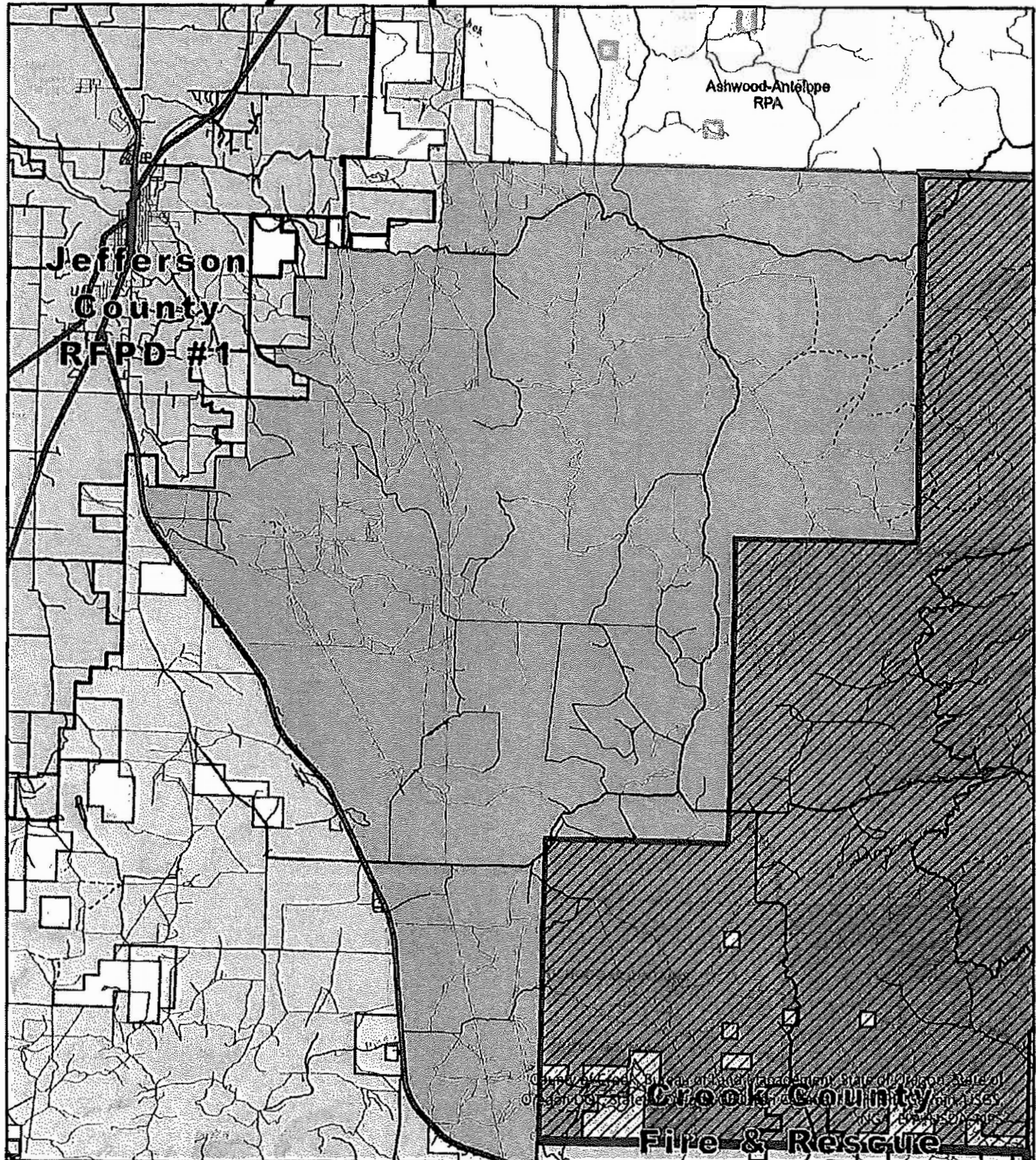
Wayne Fording, Commissioner

Kelly Simmelink, Chair

Mark Wunsch, Commissioner



# Grizzly Proposed RFPA M-027-23



**Road Types**  
**PDMclass**  
 — Interstate; Highway  
 — Paved; Highway exit  
 — All weather  
 · Dirt

**In UGB; Paved - Secondary Display Layer**  
 — Mainline Rd  
 ··· Hiking trail  
 ··· 4wd trail

**Protection Status 2021**  
 ■ Structural Fire Protection  
 □ BLM  
 ■ Forest Protection Association  
 No known protection

□ Other Federal  
 ■ Rangeland Protection Association  
 □ USFS  
 ODF Forest Protection Districts  
 ■ Grizzly Proposed RFPA  
**AGENDA ITEM D**

## STAFF REPORT

|                       |                                                                                                                                            |
|-----------------------|--------------------------------------------------------------------------------------------------------------------------------------------|
| Agenda Item No.:      | E                                                                                                                                          |
| Work Plan:            | Forest Resources Division                                                                                                                  |
| Topic:                | Legislative Assembly Report                                                                                                                |
| Presentation Title:   | Forest Practices Act Rule Package                                                                                                          |
| Date of Presentation: | March 8, 2023                                                                                                                              |
| Contact Information:  | Josh Barnard, Chief of Forest Resources Division, ODF,<br><a href="mailto:Josh.W.BARNARD@ODF.oregon.gov">Josh.W.BARNARD@ODF.oregon.gov</a> |

### SUMMARY

This agenda item seeks board approval to submit the statutorily required annual progress report on implementing the Private Forest Accord (PFA) to the legislature.

### CONTEXT

Senate Bill 1501, section 52, directed the Board to submit an annual progress report to the committee or interim committee of the Legislative Assembly related to forestry. The report must follow the form described in ORS 192.245. The report covers the progress of implementing the PFA legislation – SB 1501, 1502, and HB 4055 – and the requirements of the PFA Report dated February 2, 2022, published by the Forestry Department on February 7, 2022.

### BACKGROUND

In February 2020, conservation and forest industry groups offered to revise the Forest Practices Act and administrative rules through a memorandum of understanding to include mediated discussions, known as the PFA. The bill set the timeline and topics for making changes to the Forest Practices Act and rules from which the Board could apply for a programmatic habitat conservation plan (HCP). The PFA concluded in October 2021. In March 2022, the legislature adopted the accord legislation. Senate Bill 1501 incorporated by reference to the PFA Report dated February 2, 2022. The PFA Report further detailed the recommended changes to the Forest Practices Act and rules and a pathway for an HCP.

### RECOMMENDATION

The department recommends the Board direct staff to submit the attached report as presented in Attachment 1 to the legislative assembly in March 2023.

### ATTACHMENT

- (1) 2023 Annual Legislative Report on SB1501 and SB1502



# 2023 Annual Legislative Report

## Senate Bills 1501 & 1502 Private Forest Accord Implementation Update





# 2023 Annual Legislative Report

## Senate Bills 1501 & 1502

### Private Forest Accord Update

STATE OF OREGON

#### Legislative Contact

Derrick Wheeler  
[Derrick.WHEELER@odf.oregon.gov](mailto:Derrick.WHEELER@odf.oregon.gov)  
(971) 375-1258

This Report is Available Online at:

<https://www.oregon.gov/odf/aboutodf/pages/legislative-reports.aspx>



## Background

In February 2020, conservation and forest industry groups offered to revise the Forest Practices Act and administrative rules through a memorandum of understanding to include mediated discussions, known as the Private Forest Accord (PFA). In June 2020, the legislature adopted SB 1602 which increased helicopter spray buffers, directed rulemaking for salmon, steelhead, and bull trout streams in the Siskiyou Region, and set communication laws for spraying pesticides by helicopter. The bill set the accord timeline and topics for making changes to the Forest Practices Act and rules from which the Board could apply for a programmatic habitat conservation plan (HCP). The PFA concluded in October 2021. In March 2022, the legislature adopted the accord recommendations through Senate Bills 1501 and 1502, and House Bill 4055. Senate Bill 1501 incorporated by reference the PFA Report dated February 2, 2022. The PFA Report further detailed the recommended changes to the Forest Practices Act rules and a pathway for an HCP.

## Executive Summary

Since March, Department of Forestry staff have closely consulted the representative authors of the PFA Report to draft administrative rules as directed by the legislature. Each rule topic had a staff lead to focus on the topic and consult the authors on a bi-weekly basis from April until August.

On August 24, 2022, we directed the department to open public comment for 30-days and hold public hearings to collect oral and written testimony on the draft proposed rule package. During that time the board held three in-person information sessions across the state and staff answered questions. The board also held three virtual public hearings to collect oral testimony. Since our August meeting, staff continued to review the draft rules for copy editing, consistency, errors, and omissions. The rulemaking covers riparian areas, timber harvests on steep slopes, roads, setting up a small forest landowner office with alternate riparian and road management options, compliance monitoring, enforcement, adaptive management policy committee framework, and a Forest Conservation Credit.

On October 26<sup>th</sup>, 2022 the board adopted the full rule package. The department filed the board's rule package with the Secretary of State by November 30, 2022.

Senate Bill 1501 directed the board to set up an adaptive management program. This program will help inform future rulemaking and support the application to the U.S. Fish & Wildlife and National Marine Fisheries Service, informally known as NOAA Fisheries, and together as "the Services" for a programmatic HCP. When the Services approve an HCP, they issue an incidental take permit. The goal of the program is to use best available science to assess the rule effectiveness for protecting several fish and other aquatic species.

The program requires an Adaptive Management Program Committee (AMPC) to direct the work. The AMPC sets the research agenda for the program and recommends rule changes to the Board

based on research findings. During its November 16 meeting the board appointed 10 members to the AMPC. The department will convene the AMPC in early 2023.

On December 19, 2022, the Board directed the department to submit the Proposed Draft Aquatic HCP to the Services and pursue an incidental take permit in alignment with the PFA legislation. The department submitted the HCP to the Services on December 22, prior to the SB 1501 deadline of December 31, 2022. The department continues work on this HCP in anticipation of receiving an incidental take permit by the end of 2027.

|                       |                                                                                                                                         |
|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| Agenda Item No.:      | F                                                                                                                                       |
| Work Plan:            | Administrative                                                                                                                          |
| Topic:                | Board Governance Performance Self-Evaluation                                                                                            |
| Presentation Title:   | 2023 Board Governance Performance Self-Evaluation                                                                                       |
| Date of Presentation: | March 8, 2023                                                                                                                           |
| Contact Information:  | Sabrina Perez, Senior Strategy Manager<br>(503) 945-7311 <a href="mailto:sabrina.perez@odf.oregon.gov">sabrina.perez@odf.oregon.gov</a> |

## **SUMMARY**

The Board of Forestry conducts an annual formal evaluation of their performance in meeting best practices of governance as reported in a key performance measure to the Oregon Legislature. This agenda item presents the final criteria to the Board for approval and initiates the annual self-evaluation process.

## **CONTEXT**

The governance performance measure for state boards and commissions, “percent of total best practices met by the board” was enacted by the Oregon State Legislature and adopted by the Board in 2006. The measure includes fifteen standard best practices criteria tailored to meet the Board’s specific needs and interests with descriptive text to assist in a shared understanding of the measure, one additional criterion relating to public involvement and communications, and key summary questions to the evaluation. The Board’s target for the annual performance measure is meeting 100% of the total best practices.

The annual assessment is a self-evaluation conducted individually by each board member. A cumulative summary of the evaluation results are then presented to the Board in June for collective approval of the Board’s performance relative to the performance measure target. Results as shown in Attachment 2 are then included in the agency’s *Annual Performance Progress Report* and further discussed during the Board’s planning retreat.

Discussion at last year’s planning retreat was positive, exploring common areas of agreement in areas of success while also revealing interest in continuing regular check-ins with board members during meetings to openly discuss performance. Use of the existing Likert scale approach compared to a simple yes/no response was also explored with support to continue the use of the Likert scale based on the historical data collected to date and ability to further analyze responses; however, if a process change was still desired, formal discussion and Board action could occur and the process change would then need to be subsequently approved by the Legislative Fiscal Office before initiated. There were no changes formally suggested for the 2023 evaluation period that would alter the existing tailored set of best practices criteria.

## **RECOMMENDATION**

The Department recommends the Board of Forestry approve the 2023 Board Governance Performance Measure Best Management Practices Self-Evaluation Criteria as presented in Attachment 1, initiate the annual self-evaluation period, and complete individual evaluations by April 15, 2023.

## **NEXT STEPS**

Instructions for accessing the evaluation survey will be sent to the Board by email with completion requested by April 15.

## **ATTACHMENTS**

- (1) 2023 Oregon Board of Forestry Governance Performance Measure, Best Management Practices Self-Evaluation Criteria
- (2) 2022 Oregon Board of Forestry Governance Performance Measure, Self-Evaluation Summary

**Oregon Board of Forestry  
2023 Governance Performance Measure  
Best Practices Self-Evaluation Criteria**

**Performance Measure:** Percent of total best practices met by the Board.

**Target:** 100%

**Period:** Annual

**ODF Key Performance Measure:** #2

**Board Adopted:** September 6, 2006

**Instructions:**

The evaluation is conducted through an electronic survey platform. Instructions for accessing the survey will be sent to the Board following approval of the 2023 evaluation criteria.

| <b>2023 Oregon Board of Forestry Best Practices Criteria</b>                                                                                                                                                                                                                                                  | <b>Strongly Agree</b> | <b>Agree</b> | <b>Disagree</b> | <b>Strongly Disagree</b> |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|--------------|-----------------|--------------------------|
| <p>1. <b>Executive Director’s performance expectations are current.</b> <i>The Board understands this to mean that the State Forester’s Position Description is current.</i><br/><u>Comments:</u></p>                                                                                                         |                       |              |                 |                          |
| <p>2. <b>Executive Director’s performance has been evaluated in the last year.</b> <i>The Board understands this to mean that the State Forester’s Position Description is current and that the annual performance appraisal has been completed.</i><br/><u>Comments:</u></p>                                 |                       |              |                 |                          |
| <p>3. <b>The agency’s mission and high-level goals are current and applicable.</b> <i>The Board understands this to mean that the agency’s strategic initiatives and priorities are current.</i><br/><u>Comments:</u></p>                                                                                     |                       |              |                 |                          |
| <p>4. <b>The Board reviews the <u>Annual Performance Progress Report</u>.</b> <i>The Board understands this to mean that the Board reviews the report annually as a meeting agenda item.</i><br/><u>Comments:</u></p>                                                                                         |                       |              |                 |                          |
| <p>5. <b>The Board is appropriately involved in review of agency’s key communications.</b> <i>The Board understands this to mean agency and Board communications at a policy level, versus a day-to-day operating level.</i><br/><u>Comments:</u></p>                                                         |                       |              |                 |                          |
| <p>6. <b>The Board is appropriately involved in policy-making activities.</b> <i>The Board understands this to mean those policy activities that particularly have a statewide perspective, including holding Board meetings at different geographic locations around the state.</i><br/><u>Comments:</u></p> |                       |              |                 |                          |

**Oregon Board of Forestry  
2023 Governance Performance Measure  
Best Practices Self-Evaluation Criteria**

**Performance Measure:** Percent of total best practices met by the Board.

**Target:** 100%

**Period:** Annual

**ODF Key Performance Measure:** #2

**Board Adopted:** September 6, 2006

| <b>2023 Oregon Board of Forestry Best Practices Criteria</b>                                                                                                                                                                                                                                                                                                                                                         | <b>Strongly Agree</b> | <b>Agree</b> | <b>Disagree</b> | <b>Strongly Disagree</b> |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|--------------|-----------------|--------------------------|
| <p>7. <b>The agency’s policy option packages are aligned with their mission and goals.</b> <i>The Board understands this to mean the packages included in the biennial budget process as part of the Agency Request Budget.</i><br/><u>Comments:</u></p>                                                                                                                                                             |                       |              |                 |                          |
| <p>8. <b>The Board reviews all proposed budgets.</b> <i>The Board understands this to mean the Department of Forestry’s biennial budget at the Agency Request Budget level.</i><br/><u>Comments:</u></p>                                                                                                                                                                                                             |                       |              |                 |                          |
| <p>9. <b>The Board periodically reviews key financial information and audit findings.</b> <i>The Board understands this to mean significant financial issues and as audits are released.</i><br/><u>Comments:</u></p>                                                                                                                                                                                                |                       |              |                 |                          |
| <p>10. <b>The Board is appropriately accounting for resources.</b> <i>The Board understands this to mean critical issues relating to human, financial, material and facilities resources by providing oversight in these areas. This means that the Board receives briefings on such issues as succession management, vacancies, the budget, and financial effects of the fire program.</i><br/><u>Comments:</u></p> |                       |              |                 |                          |
| <p>11. <b>The agency adheres to accounting rules and other relevant financial controls.</b> <i>The Board understands this to mean the receipt of the annual statewide audit report from Secretary of State which highlights any variances in accounting rules or significant control weaknesses.</i><br/><u>Comments:</u></p>                                                                                        |                       |              |                 |                          |
| <p>12. <b>Board members act in accordance with their roles as public representatives.</b> <i>The Board understands this to mean that they follow public meeting rules, the standard of conduct for Board members, and the public input process. Members received training and information from the Governor’s Office upon appointment.</i><br/><u>Comments:</u></p>                                                  |                       |              |                 |                          |

**Oregon Board of Forestry  
2023 Governance Performance Measure  
Best Practices Self-Evaluation Criteria**

**Performance Measure:** Percent of total best practices met by the Board.

**Target:** 100%

**Period:** Annual

**ODF Key Performance Measure:** #2

**Board Adopted:** September 6, 2006

| <b>2023 Oregon Board of Forestry Best Practices Criteria</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <b>Strongly Agree</b> | <b>Agree</b> | <b>Disagree</b> | <b>Strongly Disagree</b> |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|--------------|-----------------|--------------------------|
| <p><b>13. The Board coordinates with others where responsibilities and interests overlap.</b> <i>The Board understands this to mean other public agencies and boards with statutory authority connections or overlaps, e.g. the Forest Trust Land Counties, the Oregon Environmental Quality Commission/Department of Environmental Quality; the Oregon Fish and Wildlife Commission/Department of Fish and Wildlife; the State Land Board; local fire districts; the United States Forest Service; the Bureau of Land Management.</i></p> <p><u>Comments:</u></p> |                       |              |                 |                          |
| <p><b>14. The Board members identify and attend appropriate training sessions.</b> <i>The Board understands this to mean the workshops, symposia, and field tours that accompany some Board meetings, and that the Board receives adequate technical information.</i></p> <p><u>Comments:</u></p>                                                                                                                                                                                                                                                                  |                       |              |                 |                          |
| <p><b>15. The Board reviews its management practices to ensure best practices are utilized.</b> <i>The Board understands this to mean carrying out this self-evaluation on an annual basis, conducting the annual Board work plan status check, and by conducting the periodic scan of issues on a biennial basis.</i></p> <p><u>Comments:</u></p>                                                                                                                                                                                                                 |                       |              |                 |                          |
| <p><i>Listed below is an additional best practice for the Board of Forestry; not included in calculating the percentage adherence to best practices.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                       |                       |              |                 |                          |
| <p><b>16. The Board values public input and transparency in conducting its work through outreach to and engagement of stakeholders and by using its work plan communication tools. The Board also values input and communications with its standing advisory committees, special ad hoc committees and panels and external committees with board interests.</b></p> <p><u>Comments:</u></p>                                                                                                                                                                        |                       |              |                 |                          |
| <b>Total Number</b> (Criteria 1-15)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                       |              |                 |                          |
| <b>Percentage of Total in Each Evaluation Category</b> (Criteria 1-15)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                       |              |                 |                          |
| <b>Percentage of Total in “Agree” and “Disagree”</b> (Criteria 1-15)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                       |              |                 |                          |



**Oregon Board of Forestry**  
**2023 Governance Performance Measure**  
**Best Practices Self-Evaluation Criteria**

**Performance Measure:** Percent of total best practices met by the Board.

**Target:** 100%

**Period:** Annual

**ODF Key Performance Measure:** #2

**Board Adopted:** September 6, 2006

**Summary Questions for Consideration:**

1. How are we doing?
  
2. What factors are affecting our results?
  
3. What needs to be done to improve future performance?

**Oregon Board of Forestry  
Governance Performance Measure  
2022 Summary of Best Practices Performance Evaluations**

**Performance Measure:** Percent of total best practices met by the Board.

**Target:** 100%


**Period:** Annual



**ODF Key Performance Measure:** #2

**Board Adopted:** September 6, 2006





**Summary of Individual Board Member Evaluations – July 20, 2022**

**Key:** Within Each Criteria:

#’s  
 = Board member tally count  
 = range of ratings

| Oregon Board of Forestry Best Practices Criteria                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Strongly Agree                                                                           | Agree                                                                                      | Disagree | Strongly Disagree |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|----------|-------------------|
| <p><b>1. Executive Director’s performance expectations are current.</b><br/> <i>The Board understands this to mean that the State Forester’s Position Description is current.</i></p> <p><u>Comments:</u></p> <ul style="list-style-type: none"> <li>Strongly Agree as we just filled this position.</li> </ul>                                                                                                                                                                                                                                                                 | 2<br> | 3                                                                                          | 0        | 0                 |
| <p><b>2. Executive Director’s performance has been evaluated in the last year.</b> <i>The Board understands this to mean that the State Forester’s Position Description is current and that the annual performance appraisal has been completed.</i></p> <p><u>Comments:</u></p> <ul style="list-style-type: none"> <li>He has not worked a year, but I’m confident this will be done.</li> <li>N/A Since we just hired Cal very recently.</li> <li>Does not apply since we hired the new State Forester at the time of the year that we normally do the evaluation.</li> </ul> | 0                                                                                        | 2<br> | 0        | 0                 |





**Oregon Board of Forestry  
Governance Performance Measure  
2022 Summary of Best Practices Performance Evaluations**

| Oregon Board of Forestry Best Practices Criteria                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Strongly Agree                                                                             | Agree                                                                                    | Disagree | Strongly Disagree |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|----------|-------------------|
| <p><b>3. The agency’s mission and high-level goals are current and applicable.</b> <i>The Board understands this to mean that the Board’s <u>Forestry Program for Oregon</u> and Oregon Forest Practices Act/Rules are current.</i></p> <p><u>Comments:</u></p> <ul style="list-style-type: none"> <li>• Completion of the Forestry Plan for Oregon will update mission.</li> <li>• The CCCP is current, but the FPFO and State FMP are both currently being worked on, since they are out of date.</li> <li>• FPFO was last updated in 2011.</li> </ul>                                                                                                                                                                                                                                                           | 0                                                                                          | 3<br> | 2        | 0                 |
| <p><b>4. The Board reviews the <u>Annual Performance Progress Report</u>.</b> <i>The Board understands this to mean that the Board reviews the report annually as a meeting agenda item.</i></p> <p><u>Comments:</u> n/a</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 2<br>   | 3                                                                                        | 0        | 0                 |
| <p><b>5. The Board is appropriately involved in review of agency’s key communications.</b> <i>The Board understands this to mean agency and Board communications at a policy level, versus a day-to-day operating level.</i></p> <p><u>Comments:</u> n/a</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 1<br> | 4                                                                                        | 0        | 0                 |
| <p><b>6. The Board is appropriately involved in policy-making activities.</b> <i>The Board understands this to mean those policy activities that particularly have a statewide perspective, including holding Board meetings at different geographic locations around the state.</i></p> <p><u>Comments:</u></p> <ul style="list-style-type: none"> <li>• Would like the board to be more involved in setting the agenda, to FOCUS on the larger, strategic issues.</li> <li>• Board needs to continue to meet across the state to connect with the public and understand their needs.</li> <li>• Although in most cases this is done, the Private Forests Accord had no Board involvement as a Board. So I agree with this statement in some but not all instances of policy decisions and agreements.</li> </ul> | 1<br> | 4                                                                                        | 0        | 0                 |

**Oregon Board of Forestry  
Governance Performance Measure  
2022 Summary of Best Practices Performance Evaluations**

| Oregon Board of Forestry Best Practices Criteria                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Strongly Agree | Agree  | Disagree | Strongly Disagree |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|--------|----------|-------------------|
| <p><b>7. The agency’s policy option packages are aligned with their mission and goals.</b> <i>The Board understands this to mean the packages included in the biennial budget process as part of the Agency Request Budget.</i></p> <p><u>Comments:</u></p> <ul style="list-style-type: none"> <li>• There can be greater alignment and this was discussed during the last board meeting.</li> <li>• However, the process of back and forth between staff and board on policy option packages does not work all that well and has been limited by staff just simply not having enough time to address all issues in some cases.</li> <li>• I agree for the most part. I believe that a structuring of funding for State Forests is needed to address sustainable forest management for all forest resources going forward.</li> </ul> | 0              | 5<br>↔ | 0        | 0                 |
| <p><b>8. The Board reviews all proposed budgets.</b> <i>The Board understands this to mean the Department of Forestry’s biennial budget at the Agency Request Budget level.</i></p> <p><u>Comments:</u> n/a</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 2<br>↔         | 3      | 0        | 0                 |
| <p><b>9. The Board periodically reviews key financial information and audit findings.</b> <i>The Board understands this to mean significant financial issues and as audits are released.</i></p> <p><u>Comments:</u></p> <ul style="list-style-type: none"> <li>• The board is given an excellent financial monthly update that has been developed in the past 1.5 years. This is an excellent overview in addition to audit updates.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                      | 3<br>↔         | 2      | 0        | 0                 |
| <p><b>10. The Board is appropriately accounting for resources.</b> <i>The Board understands this to mean critical issues relating to human, financial, material and facilities resources by providing oversight in these areas. This means that the Board receives briefings on such issues as succession management, vacancies, the budget, and financial effects of the fire program.</i></p> <p><u>Comments:</u> n/a</p>                                                                                                                                                                                                                                                                                                                                                                                                           | 0              | 5<br>↔ | 0        | 0                 |
| <p><b>11. The agency adheres to accounting rules and other relevant financial controls.</b> <i>The Board understands this to mean the receipt of the annual statewide audit report from Secretary of State which highlights any variances in accounting rules or significant control weaknesses.</i></p> <p><u>Comments:</u> n/a</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1<br>↔         | 4      | 0        | 0                 |

**Oregon Board of Forestry  
Governance Performance Measure  
2022 Summary of Best Practices Performance Evaluations**

| Oregon Board of Forestry Best Practices Criteria                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Strongly Agree | Agree                                                                                      | Disagree | Strongly Disagree |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|--------------------------------------------------------------------------------------------|----------|-------------------|
| <p><b>12. Board members act in accordance with their roles as public representatives.</b> <i>The Board understands this to mean that they follow public meeting rules, the standard of conduct for Board members, and the public input process. Members received training and information from the Governor’s Office upon appointment.</i></p> <p><u>Comments:</u> n/a</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 1              | 4<br>   | 0        | 0                 |
| <p><b>13. The Board coordinates with others where responsibilities and interests overlap.</b> <i>The Board understands this to mean other public agencies and boards with statutory authority connections or overlaps, e.g. the Forest Trust Land Counties, the Oregon Environmental Quality Commission/Department of Environmental Quality; the Oregon Fish and Wildlife Commission/Department of Fish and Wildlife; the State Land Board; local fire districts; the United States Forest Service; the Bureau of Land Management..</i></p> <p><u>Comments:</u></p> <ul style="list-style-type: none"> <li>I think that there are additional efficiencies that could be realized by collaborating with other agencies around shared goals, including monitoring efforts and implementation of climate-smart land management.</li> </ul> | 0              | 5<br>   | 0        | 0                 |
| <p><b>14. The Board members identify and attend appropriate training sessions.</b> <i>The Board understands this to mean the workshops, symposia, and field tours that accompany some Board meetings, and that the Board receives adequate technical information.</i></p> <p><u>Comments:</u> n/a</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2              | 3<br> | 0        | 0                 |
| <p><b>15. The Board reviews its management practices to ensure best practices are utilized.</b> <i>The Board understands this to mean carrying out this self-evaluation on an annual basis, conducting the annual Board work plan status check, and by conducting the periodic scan of issues on a biennial basis.</i></p> <p><u>Comments:</u></p> <ul style="list-style-type: none"> <li>However, all the questions in this survey are appropriately answered with a simple agree or disagree - they are really yes or no questions. Why do we have these strongly agree and strongly disagree options? The comment boxes offer the opportunity to share more nuanced thoughts.</li> </ul>                                                                                                                                             | 2              | 3<br> | 0        | 0                 |

**Oregon Board of Forestry  
Governance Performance Measure  
2022 Summary of Best Practices Performance Evaluations**

| Oregon Board of Forestry Best Practices Criteria                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Strongly Agree | Agree  | Disagree | Strongly Disagree |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|--------|----------|-------------------|
| <i>Listed below is an additional best practice for the Board of Forestry; not included in calculating the percentage adherence to best practices.</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                |        |          |                   |
| <p><b>16. The Board values public input and transparency in conducting its work through outreach to and engagement of stakeholders and by using its work plan communication tools. The Board also values input and communications with its standing advisory committees, special ad hoc committees and panels and external committees with board interests.</b></p> <p><u>Comments:</u></p> <ul style="list-style-type: none"> <li>• I don't have the numbers, but it seems we have record testimony and letters. The public input is very strong.</li> <li>• I agree, but this could be improved by contracting with a university to conduct focused social science surveys to assess the values held by all Oregonians, not simply the stakeholders to whom we always seem to return to.</li> </ul> | 3<br>←         | 2<br>→ | 0        | 0                 |
| <b>Total Number (Criteria 1-15)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 17             | 53     | 2        | 0                 |
| <b>Percentage of Total in Each Evaluation Category (Criteria 1-15)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 23.61%         | 73.61% | 2.78%    | 0%                |
| <b>Percentage of Total in "Agree" and "Disagree" (Criteria 1-15)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 97%            |        | 3%       |                   |

**Oregon Board of Forestry  
Governance Performance Measure  
2022 Summary of Best Practices Performance Evaluations**

**Summary Questions for Consideration:**

**1. How is the Board doing?**

- Fine
- The Board is doing well considering the volume of issues it must address
- Really Well
- Better than when I joined. Everyone seems committed and involved and positive.
- It is a high functioning Board with members who work well together and is being led by a Board Chair who has been effective in achieving these outcomes.

**2. What factors are affecting the Board's results?**

- The Chair needs to focus the agenda and drive discussion on the larger, strategic issues. We overbook the agenda and then cut items. There are very large issues that need board discuss and public input that are getting crowded out.
- The number of issues the Board must address is extremely high for a volunteer Board.
- A bit of overload, with too many issues facing the board, but I think we are over the worst of it.
- Covid protocols have limited our ability to get to know each other better but that is starting to change.
- One factor is the urgency associated with the rapid change in climate, and associated extreme weather events as they influence fire frequency and severity, tree stress and mortality, and subsequent effects on underserved communities. The other factor is time – As a volunteer Board, the time needed to address all ongoing efforts is significant, especially now with a revision of the FPFO.

**3. What needs to be done to improve future performance?**

- Focus
- More in person meetings, more ad hoc, simple field tours.
- The committee structure to delegate Board work among members needs some careful evaluation. Involvement of Board members in committees that may have been historically important, but not now essential, should be reconsidered.

**State Forester, Board Member, and Public Comments**



## STAFF REPORT

|                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Agenda Item No.:      | 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Work Plan:            | Fire Protection                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Topic:                | Forest Protective Associations                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Presentation Title:   | Overview of the Forest Protective Associations                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Date of Presentation: | March 8 <sup>th</sup> , 2023                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Contact Information:  | Mike Shaw, Chief – Fire Protection<br>503-945-7204, <a href="mailto:Michael.H.Shaw@odf.oregon.gov">Michael.H.Shaw@odf.oregon.gov</a><br>Pat Skrip, District Manager- Douglas Forest Protective Association<br>541-580-2788, <a href="mailto:Pat.Skrip@odf.oregon.gov">Pat.Skrip@odf.oregon.gov</a><br>Mike Robison, District Manager- Coos Forest Protective Association<br>541-267-3161, <a href="mailto:Mike.E.Robison@odf.oregon.gov">Mike.E.Robison@odf.oregon.gov</a><br>RD Buell, District Manager- Walker Range Protective Association<br>541-420-4551, <a href="mailto:RD.Buell@odf.oregon.gov">RD.Buell@odf.oregon.gov</a> |

### SUMMARY

The purpose of this agenda item is to provide the Board with an overview of the history of the Forest Protective Associations and their relationship with the Oregon Department of Forestry (ODF) and the Board of Forestry. Forest Protective Association District Managers will present information describing the unique relationship and roles/responsibilities of the Associations.

### RECOMMENDATION

This is an informational item.

|                       |                                                                                                                                                                                                               |
|-----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Agenda Item No.:      | 3                                                                                                                                                                                                             |
| Work Plan:            | Forest Resources Division                                                                                                                                                                                     |
| Presentation Title:   | Climate Smart Award                                                                                                                                                                                           |
| Date of Presentation: | March 8, 2023                                                                                                                                                                                                 |
| Contact Information:  | Josh Barnard, Division Chief, Forest Resources Division,<br>503-551-8568, josh.w.barnard@odf.oregon.gov<br>Christine Buhl, Forest Entomologist, Forest Resources<br>Division, christine.j.buhl@odf.oregon.gov |

**SUMMARY**

This is an update on the development of the Oregon Department of Forestry’s Climate Smart award. This item is informational only.

**CONTEXT**

The Climate Smart Award is intended to recognize better climate and carbon practices as part of the department’s Climate Change and Carbon Plan (CCCP). This award meets the CCCP goal for “recognition of operators and organizations that innovate and work to implement climate-smart forestry practices, harvest, and utilization in a manner that advances climate aware, climate smart, and ecosystem conscious outcomes.” The Climate Smart Award recognizes landowners and land managers, researchers, and operators that are utilizing climate change-adapted practices or developing innovative methods of carbon capture, retention, or reduced release.

**BACKGROUND AND ANALYSIS**

In 2021, the department published the CCCP with the goal of helping Oregon’s forestry sector lead climate change mitigation and adaptation. The CCCP focused on climate smart forestry in silviculture, fire management, state forests management, climate resilience, urban and community forests, reforestation, conserving forests, and research and monitoring.

Staff formed a committee to discuss award criteria to recognize climate smart forestry. Staff have also presented the draft criteria to various groups including: the Committee for Family Forestlands, Regional Forest Practice Committees, and the agency’s executive and leadership teams for feedback. The committee incorporated the feedback into the criteria.

Once the award process is finalized, the award program will launch. The department will accept nominations, the committee will review nominations for meeting the minimum criteria, and the Forest Legacy and Stewardship Program Working Group will review nominations and recommend award winners to the State Forester. In this presentation, staff will provide an update on the progress of Climate Smart award development and welcome input to finalize the award.

**RECOMMENDATION**

This agenda item is informational only.

**NEXT STEPS**

Finalize award criteria and implement the program.

**ATTACHMENT**

- (1) Climate Smart Award structure and criteria draft



## CLIMATE SMART AWARD: NOMINATION FORM

*Draft January 2023*

### Climate Smart Award

Award structure and Criteria

---

**PURPOSE:** Recognize landowners, land managers, researchers, operators, or other forestry professionals that use climate change-adapted practices, or develop innovative methods for carbon capture, retention, or reduced release. The goal is to encourage, improve, and recognize climate and carbon practices as part of the Department [Climate Change and Carbon Plan](#).

### **OBJECTIVES:**

- A. Climate Smart forestry in silviculture
- B. Fire management, response, and fire or smoke adaption
- C. Forestlands climate resilience and ecological function restoration
- D. Carbon reduction or capture in operations
- E. Innovative research or products that reduce emissions or increase climate resilience

**AUTHORITY:** Board of Forestry, State Forester

**SCOPE:** Statewide across non-federal forestlands. It may extend to universities, educators, consulting and research agencies, fabricators, operators, and private industry.

### **STANDARDS:**

- A. Two awards for the state, one from each nominee category.
- B. Nominee categories:
  - 1. Landowners and land managers
  - 2. Research and innovation
- C. Award winners may not be nominated again within three years after winning an award, even if nominated for different practices.
- D. Nominees may not come from members of the nomination committee.
- E. Organizations or joint collaborators will receive a single award.
- F. Award winners may mention their award in department grant and incentive program applications, but this does not give project preference or priority solely for receiving an award.
- G. Nominee categories:



## CLIMATE SMART AWARD: NOMINATION FORM

Draft January 2023

### 1. Landowner and Land Manager:

Minimum requirements:

- a. Activities will be weighed by amount of land ownership to ensure fairness among small and large landowners.
- b. No Forest Practices Act (FPA) rule violations in the two years prior to award nomination due date.
- c. Where applicable, explain how land use practices on a per acre basis where possible, have:
  - i. Enhanced carbon sequestration and storage.
  - ii. Reduced emissions or other carbon losses.
  - iii. Reduced forest industry waste, such as:
    1. Reduced slash production or burning
    2. Reduced transport mileage
    3. Using fuel and energy efficient equipment
    4. Development or use of biochar or biofuels
  - iv. Increased resilience of forest ecosystems, such as:
    1. Increasing tree species diversity
    2. Transitioning to more climate-adapted tree species
    3. Reducing stand stocking
    4. Balancing *total* carbon capture via longer rotations versus increased carbon capture rates via younger trees
    5. Exceeded FPA rules
- d. Bonus: has the nominee attained ongoing certifications that promote climate change resiliency, such as ATFS, OTFS, FSC, and STI. If applicable, list certification(s) and include actions taken to attain certification(s) in nomination form.

### 2. Research and Innovation:

Minimum Products and Strategies:

- a. Novel research results, products, strategies.
- b. When applicable, must show how they have:
  - i. Enhanced carbon sequestration and storage
  - ii. Reduced carbon losses
  - iii. Reduced emissions
  - iv. Reduced forest industry waste
  - v. Increased resilience of forest ecosystems
  - vi. Produced novel strategies, research, or products
- c. Future impact of research to improve climate adaptation and mitigation.
- d. Equity. Efforts that provide a greater benefit to underserved communities.

Award Criteria:



## CLIMATE SMART AWARD: NOMINATION FORM

*Draft January 2023*

1. Consistency. Give more weight to a nominee with a history of good climate and carbon practices versus a single year's effort.
2. Degree of difficulty. The nominee endured some difficulty in employing strategies or overcoming research difficulties following sound science.
3. Risk. The nominee assumed some higher risk of money, time, or equipment to advance Climate Smart Forestry practices or research.
4. Innovation and extra effort. The nominee pursued innovative techniques or research, developed new strategies or products, or incorporated collaborative efforts.
5. Overall good practices. For example, nominees may have done an excellent job with one project or managing and harvesting part of one or some properties, but adequate at other times. In such cases, more weight would go to those whose work in total meets the objectives of the Climate Smart Award.

### **PROCEDURES AND RESPONSIBILITIES:**

- A. In October through January, Climate Smart leads will advertise the opening of nominations and instructions to Department area offices and Public Affairs, Forest Practice foresters, universities, OSWA, Association of Oregon Loggers, Society of American Foresters to start the nominating process. Entities can nominate themselves.
- B. Nominate entities by January on a form like Attachment A. Photographs, maps, and other documents should accompany the application for illustrating the research, operation, or practice.
- C. By February, the department's Climate Smart committee will provide the first screening of nominations to determine who qualifies.
- D. By March, the Forest Legacy and Stewardship Program Working Group will provide the final screening to select nominees for field tours.
- E. By April, Climate Smart committee members will attend a field tour or meeting with the top nominees from each category to review criteria. Photographs will be taken for future publicity.
- F. By April, the Climate Smart committees should make their selection for each category. Attachment B is a sample rating form that the committee can use to help rank nominees.
- G. By May, the Climate Smart Award plaques will be ordered by the Climate Smart committee.
- H. By July, the Climate Smart committee will prepare and mail letters to the final nominees for the Climate Smart Awards indicating award winners. The Climate



## CLIMATE SMART AWARD: NOMINATION FORM

*Draft January 2023*

Smart committee will also coordinate with award winners to prepare narratives to be read at the awards ceremony.

- I. By August, the Climate Smart committee in consultation with the Department's Public Affairs staff, will develop a publicity plan that can be implemented annually to recognize award winners. Public Affairs arranges to take pictures of Climate Smart presentations and make statewide news releases. Public Affairs will also collaborate with OSU-Extension Forestry to advertise efforts to others via OSU blogs, Tree School, and landowner field days.
- J. In September, the Board of Forestry will present the Climate Smart Awards at its regular meeting.

Attachment A.

## CLIMATE SMART RECOGNITION NOMINATION FORM

### Section A. NOMINATION INFORMATION

Nominated by:

Nominee Name:

Company, agency, etc. name (if applicable):

Address:

Phone:

Email:

---

### Section B.

#### Landowner Award Nomination

Activities (*where applicable explain and list date(s) and location(s) for each below*):

( ) Enhanced carbon sequestration and storage

( ) Reduced emissions or other carbon losses

( ) Reduced forest industry waste

( ) Increased resilience of forest ecosystems

( ) Attained ongoing certifications

( ) Other strategies associated with climate resilience and/or carbon reduction or capture



Research / Innovation Nomination

Activities (*where applicable explain and list date(s) and location(s) for each below*):

- ( ) Novel research results, products, strategies
  
- ( ) Enhanced carbon sequestration and storage
  
- ( ) Reduced carbon losses
  
- ( ) Reduced emissions
  
- ( ) Reduced forest industry waste
  
- ( ) Increased resilience of forest ecosystems
  
- ( ) Future implications for climate adaptation and mitigation
  
- ( ) Equity
  
- ( ) Other strategies associated with climate resilience or carbon reduction or capture

**Section C.** Nominating Criteria (applies to both landowner and research/innovation nominee)

1. Describe the nominee's consistency in performance over the years (use examples and list dates).

2. Describe the difficulty and complexity of the activities regarding climate resilience or carbon reduction or capture.
3. Describe how the nominee was innovative or is contributing to current or future strategies.
4. Describe and quantify benefit to climate resilience or carbon reduction or capture.
5. Describe the financial risk or time commitment assumed by the nominee.
6. Other considerations not covered in 1-5.

Please Attach if Available/Applicable:

- Aerial Photo(s)
- Site Map or Diagram
- Before and After Field Photo(s) with Photo Points
- Product/Research Photo(s)
- Scientific Publication(s)

---

Nominator

Attachment B.

ANNUAL CLIMATESMART AWARD  
NOMINEE RATING FORM

| <b>CRITERIA</b>                                                          | <b>POINTS POSSIBLE</b> | <b>SCORE</b> |
|--------------------------------------------------------------------------|------------------------|--------------|
| CONSISTENCY                                                              | 20                     |              |
| DIFFICULTY                                                               | 15                     |              |
| IMPACT ON CLIMATE<br>RESILIENCY AND/OR<br>CARBON REDUCTION<br>OR CAPTURE | 30                     |              |
| INNOVATION/EFFORT                                                        | 20                     |              |
| RISK                                                                     | 15                     |              |
| TOTAL SCORE                                                              | 100                    |              |

|                       |                                                                                                                                                                                                                                         |
|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Agenda Item No.:      | 4                                                                                                                                                                                                                                       |
| Topic:                | Forestry Program for Oregon Update and Oregon Kitchen Table Proposal for Engaging Oregonians                                                                                                                                            |
| Date of Presentation: | March 8, 2023                                                                                                                                                                                                                           |
| Contact Information:  | Ryan Gordon, ODF Planning Branch Director<br>503-945-7393, <a href="mailto:ryan.p.gordon@odf.oregon.gov">ryan.p.gordon@odf.oregon.gov</a><br>Wendy Willis, Oregon Kitchen Table<br><a href="mailto:wwillis@pdx.edu">wwillis@pdx.edu</a> |

## **SUMMARY**

To advance community engagement with the Forestry Program for Oregon revision process, the department will be contracting with the National Policy Consensus Center at Portland State University – Oregon’s Kitchen Table – to assess the vision for forestry with members of the public who traditionally do not engage with policy decision-making spaces or Board events. An update will be provided to the Board on the scope and phased approach of this work. This is an informational item.

## **CONTEXT**

The Board and Executive Team have begun a process to collaboratively develop a new strategic plan for the department during 2023. The Board is interested in advancing community engagement in two ways: 1) by better understanding what values and beliefs people in Oregon hold about forestry as it builds a vision for forestry in Oregon; and 2) by building relationships with Oregonians who are often left out of traditional engagement processes.

As part of its broader process to create a vision for forestry, the Board’s Forestry Program for Oregon Subcommittee has sought assistance from Oregon’s Kitchen Table (OKT), a program of the National Policy Consensus Center at Portland State University, which specializes in community engagement, particularly with community members who have been left out of traditional public decision-making processes.

Oregon’s Kitchen Table will work with the Board Subcommittee to design and facilitate a public engagement process with people across Oregon that would include:

- A series of interviews with community connectors to help build relationships, identify community organizers, and determine how best to co-create statewide engagement efforts, particularly with historically under-represented communities.
- An engagement plan based on past statewide engagement projects, as well as what’s learned during the interviews with community connectors and from the process development group.
- Developing an outreach plan to coordinate and conduct outreach with community connectors and community organizers, including developing communication materials in coordination with the Subcommittee.

- Implementing components of the outreach and engagement plan, which may include components such as:
  - A statewide online survey in approximately 8 languages;
  - Culturally-specific engagement activities and focus groups; and
  - Facilitated regional community conversations.

The proposed timeline for this work is summarized in Attachment 1.

In addition to the outreach and engagement that will be facilitated by OKT, the department will offer opportunities for public engagement and feedback on strategic plan development through traditional processes, including the following:

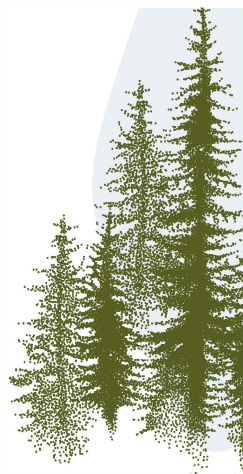
- Public testimony at Board meetings;
- Opportunities for conversation at socials planned in conjunction with Board events; and
- Written comments submitted to the Board of Forestry and department.

## **ATTACHMENT**

(1) Forestry Program for Oregon Community Engagement Timeline



# FORESTRY PROGRAM FOR OREGON: COMMUNITY ENGAGEMENT



## 2023 Timeline

**FEB**

- Goal setting with Subcommittee
- Identify / begin Community connector interviews

**MAR**

- Community connector interviews
- Engagement design

**APR**

- Finalize content
- Finalize design

**MAY**

- Finalize materials in multiple languages

**AUG**

- Identify emerging themes, unique perspectives
- Draft report

**JUL**

- Continue:
- survey
  - organizing activities
  - events

**JUNE**

- Begin:
- survey
  - organizing activities
  - events

**SEP**

- Plain language summary
- Translate
- Post report

**OCT**

- Hold community conversations
- Meaning making

**NOV**

- Addendum to OKT report

**BOARD OF FORESTRY**  
Makes and shares decisions



## STAFF REPORT

|                       |                                                                                                                                                                                                                                                                                               |
|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Agenda Item No.:      | 5                                                                                                                                                                                                                                                                                             |
| Topic:                | 2023 Legislative Session Update                                                                                                                                                                                                                                                               |
| Date of Presentation: | March 8, 2023                                                                                                                                                                                                                                                                                 |
| Contact Information:  | Ryan Gordon, ODF Planning Branch Director<br>503-945-7393, <a href="mailto:ryan.p.gordon@odf.oregon.gov">ryan.p.gordon@odf.oregon.gov</a><br>Derrick Wheeler, ODF Legislative Coordinator<br>971-375-1258, <a href="mailto:Derrick.Wheeler@odf.oregon.gov">Derrick.Wheeler@odf.oregon.gov</a> |

### SUMMARY

The Board of Forestry will meet the department's new Legislative Coordinator, Derrick Wheeler. Staff will provide a brief update on the Governor's Recommended Budget and key legislative issues that may impact the department during the 2023 Legislative Session. This is an informational item.

### CONTEXT

The department has added a permanent position dedicated to legislative coordination, which will focus on building a new program to track, coordinate, and build strategy around policy issues impacting the department at the state and federal levels. Derrick Wheeler, the new Legislative Coordinator, will provide an overview of the Governor's Recommended Budget (GRB), along with a brief summary of the department's legislative concepts and other policy issues that may impact the department during the 2023 Legislative Session.

Overall, the GRB mostly maintains continuing service levels for the department, with reductions achieved through some fund shifts, elimination of four positions, and reduced funding for the Landscape Restoration and Small Forest Landowner programs authorized by SB 762 in the 2021 Legislative Session. The GRB provides additional investment in the continued development of the Private Forest Accord, funding for fire severity costs, and support for capital improvement projects to rebuild facilities lost to fire.

The Department developed three legislative concepts (LCs) for the 2023 session – two related to managing large fire costs and one that sets harvest tax rates in the 2024 and 2025 calendar years. The large fire funding LCs will not move forward. The harvest tax LC has been introduced as HB 3241.

Other policy topics with a nexus to department business will be summarized during the meeting.

### ATTACHMENT

- (1) Oregon Department of Forestry 2023-2025 Governor's Budget Summary

# Oregon Department of Forestry

## 2023-25 Governor's Budget



|                             | 2021-23<br>Legislatively<br>Adopted<br>Budget | 2021-23<br>Legislatively<br>Approved<br>Budget | 2023-25<br>Current<br>Service<br>Level | 2023-25<br>Agency<br>Request<br>Budget | 2023-25<br>Governor's<br>Budget |
|-----------------------------|-----------------------------------------------|------------------------------------------------|----------------------------------------|----------------------------------------|---------------------------------|
| <b>General Fund</b>         | \$167,377,154                                 | \$230,245,653                                  | \$161,851,833                          | \$226,663,537                          | \$169,120,330                   |
| <b>Lottery Fund</b>         | \$2,564,210                                   | \$2,564,210                                    | \$2,557,080                            | \$2,557,080                            | \$2,557,080                     |
| <b>Other Funds</b>          | \$310,849,227                                 | \$397,503,110                                  | \$335,376,852                          | \$372,310,300                          | \$347,242,173                   |
| <b>Federal Funds</b>        | \$41,395,153                                  | \$41,779,100                                   | \$43,838,515                           | \$48,599,636                           | \$43,813,031                    |
| <b>Total Funds</b>          | \$522,185,744                                 | \$672,092,073                                  | \$543,624,280                          | \$650,130,553                          | \$562,732,617                   |
| <b>Positions</b>            | 1,335                                         | 1,393                                          | 1,371                                  | 1,434                                  | 1,367                           |
| <b>Full-Time Equivalent</b> | 1,006.07                                      | 1,027.03                                       | 1,039.21                               | 1,096.77                               | 1,035.21                        |

### GB Budget Highlights – Recommended Packages

#### Forest Resource Division: Private Forests Accord Development – Package 106

Senate Bill 1501 (2022) directs ODF to establish a Small Forestland Owner Investment in Stream Habitat Program (SFISH) and an Adaptive Management Program as part of the continued implementation of the Private Forests Accord. This package provides the necessary General Fund to support these programs, as well as additional investment in services and supplies for positions associated with SB 1501 at the 60/40 General Fund and harvest tax split.

Fiscal Impact: \$13,893,564 General Fund, \$665,709 Other Funds, 0.00 FTE, 0 Positions

#### Continuation of Funding for Fire Severity Resources and Insurance Costs – Package 110

As in previous biennia, establishes a Special Purpose Appropriation in the Emergency Board Fund to provide critical supplemental firefighting mobile resources—primarily contract air tankers and helicopters—positioned where and when fire danger is the highest.

Fiscal Impact: \$15,232,000 General Fund, 0.00 FTE, 0 Positions

#### Capital Construction: Klamath Facility Replacement – Package 114

This package proposes Other Funds limitation to enable the department to use insurance proceeds and other revenue sources to rebuild the Klamath facility lost to fire.

Fiscal Impact: \$1,500,000 Other Funds 0.00 FTE, 0 Positions



## GB Budget Highlights – Recommended Packages

### Capital Construction: Santiam Facility Replacement – Package 115

This package seeks Other Funds limitation to enable the department to use insurance proceeds and other revenue sources to rebuild the Santiam facility lost during the 2020 fire season.

Fiscal Impact: \$2,500,000 Other Funds 0.00 FTE, 0 Positions

## GB Budget Highlights – Reductions, Fund Shifts, and Other Actions

The Governor's Budget recommends numerous reductions and fund shifts throughout the department, including:

- Reduction of four Administrative Branch positions.
- Reauthorization of both Toledo Phase II and Capital Improvement and Renewal bonding authority.
- Shift to a 60 percent General Fund and 40 percent Forest Products Harvest Tax split of seven positions established under SB 1501 (Private Forests Accord).
- General Fund reduction to the Landscape Resiliency and the Small Forest Land grant programs.
- A carryforward of \$6 million in unspent General Fund for obligations associated with implementation of the Private Forests Accord.

|                       |                                                                                                                                                                                                                                                                  |
|-----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Agenda Item No.:      | 6                                                                                                                                                                                                                                                                |
| Topic:                | Sightline Institute: Long Rotational Forestry Discussion                                                                                                                                                                                                         |
| Date of Presentation: | March 8, 2023                                                                                                                                                                                                                                                    |
| Contact Information:  | Ryan Gordon, ODF Planning Branch Director<br>503-945-7393, <a href="mailto:ryan.p.gordon@odf.oregon.gov">ryan.p.gordon@odf.oregon.gov</a><br>Kate Anderson, Sightline Institute, Senior Researcher<br><a href="mailto:kate@sightline.org">kate@sightline.org</a> |

## **SUMMARY**

The Board of Forestry will hear from Dr. Kate Anderson, Senior Researcher at Sightline Institute, about the theory and practice of long rotation forestry in the Pacific Northwest. This is an informational item with time reserved for questions and discussion.

## **CONTEXT**

Dr. Anderson will discuss the present theory and future outlook for longer rotation forest management in Oregon. The presentation will explore multiple objectives for Oregon's forests, including carbon sequestration, and highlight the ecological, economic, and carbon benefits of long rotation management in the Pacific Northwest. Key topics include the following:

1. Summarize how long rotations can help Oregon meet its commitments to a competitive timber economy, public revenue, jobs, climate, and conservation.
2. Define long rotations and explain the biology behind why extending rotations yields both volume and carbon gains.
3. Clarify some confusion and misinformation regarding these results, where the science is clear, and where there are uncertainties.
4. Identify the major hurdles to extending rotations on private land: the short "financial rotation age," limited large-log mill infrastructure, concern that the Endangered Species Act will prevent logging mature trees, and the potential impact on timber supply.
5. Consider possible transition pathways that avoid reductions in timber supply.

## **ATTACHMENT**

- (1) Sightline Institute Research on Long Rotations for Cascadian Forests

# Long Timber Harvest Rotations

## Methodology, Results, and Policy Considerations

By Kate Anderson, PhD, Sightline Institute | February 2023

The below materials were prepared for the Oregon Board of Forestry's Public Meeting on March 8, 2023.

Included are four articles reporting on Sightline Institute's research investigating whether extending timber harvest rotations can or cannot help Oregon and Washington meet their commitments to a competitive timber economy, jobs, climate, and forest health.

## Contents

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# YES, LONG ROTATIONS CAN YIELD REAL CLIMATE GAINS FOR CASCADIA

Harvesting trees at 80 years, instead of 40, stores more carbon and yields more timber.



This stand of western hemlock on the Olympic Peninsula was thinned over a decade ago by EFM. Source: EFM.

**March 17, 2022 | By Kate Anderson, PhD**

Forest owners want to know: Will extending my forest harvest rotation produce real climate gains? Timberland owner Richard Pine says, “I’m not entirely convinced.” And he’s not alone.

“Long rotations” refers to delaying logging<sup>1</sup> and growing forests past a short life, letting them reach something closer to what’s sometimes called the biological growth maximum, the age that yields the greatest volume of timber from the land over time. Experts, like Court Stanley, who managed Port Blakely’s long rotations for over 30 years, estimate that the biological growth maximum for Pacific Northwest forests west of the Cascades is between 80-100 years.

Applied to football quarterbacks, short rotation forestry is like retiring Patrick Mahomes at his current age of 26 because he’s no longer improving as fast as he used to. He’s still a superb quarterback, and based on NFL averages, he’s still got 10 winning years left in him.

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<sup>1</sup> For simplicity, this article narrowly focuses on extending rotations in clear-cut (even-aged) harvests. Timberland owners can harvest uneven-aged, multi-story stands on longer rotations too. The rotation age is defined as when the oldest trees get cut.



Long-rotation forestry could mean replacing two typical 40-year harvest cycles with one 80-year cycle.<sup>2</sup> The long-lived moist forests of the Pacific Northwest offer some of the greatest returns for longer rotations. In NFL terms, they are the Tom Brady, Brett Favre, and Warren Moon of the world's forests—older, wiser, and winners.

As a strategy to coax more and [higher-quality](#) timber from a forest, long rotations have been [the gold standard](#). As a tool to fight climate change, delaying harvest was enshrined in action plans all the way back to the [Kyoto protocol](#). Today, extending rotations is an acceptable activity for banking carbon offset credits, including by the strict standards of [California's carbon market](#).

As far as ecosystem modelers are concerned, extended rotations as a top climate priority for Cascadia is [settled science](#). In [California](#), Oregon, and Washington, extending forest harvest rotations on industrial forestlands offers the highest potential carbon gains of any natural carbon solution.<sup>3</sup>

How much carbon storage are we talking about? Extending rotations from 45 to 75 years on just 40 percent of private timberland would sequester up to 5.6 million metric tons of CO<sub>2</sub> per year by 2050 in [Oregon](#) and up to 5.2 million metric tons in [Washington](#). These amounts equal 10 percent of [Oregon's annual emissions reduction goal for 2050](#) and 7 percent of [Washington's target](#) for 2050.



Measuring wood characteristics. Source: Marcus Kauffman, Oregon Dept. of Forestry.

For about a quarter of all forestland west of the Cascades in Oregon and Washington, extending rotations could also produce enough additional timber to [pay for itself](#), even considering the financial costs of letting trees stand for another 35-40 years.

These financial costs, often alluded to with expressions such as “the time value of money” or “the discount rate,” are what drive down harvest age from a “biological rotation age” that maximizes timber yield to a “financial rotation age” that maximizes return on investment.

Dave Walters, Vice President of Acquisitions and Business Development at timber company Green Diamond, explained: “If you look back, forests were managed to hit the peak of biological growth. As the business became more financially motivated, peaking biological growth adjusted to be peaking financial maturity of the forest. The rotation age declined and we got to this financial rotation age.”

In future articles, I will explain these and other challenges to transitioning back to long rotations—especially for the many people whose livelihoods depend on the timber industry—and I will explore possible solutions.

<sup>2</sup> The age that maximizes sustained yield varies tremendously by region, species, and even by site. It's much older for slow-growing lodgepole pine in Eastern Washington, and younger for loblolly pine in the Southeastern United States.

<sup>3</sup> [Natural carbon solutions](#) are land management strategies that increase carbon storage or avoid greenhouse gas emissions.

## Long rotations in practice: It's already working



Debra Pine on a log loader during harvest near Centralia, WA. Source: Richard Pine.

Mason, Bruce & Girard (MB&G), one of the oldest and largest consulting forestry firms in the United States, manages several forests on long rotations. For a 12,500-acre family forest in Linn County, Oregon, for example, its goal is a rotation of 80 years or more. According to MB&G's field data, an 80-year rotation that includes commercial thinning yields 70 percent more timber than two 40-year rotations on the same land.

Edie Dooley, the MB&G forester managing this forest, is passionate about these results. "Everyone's proposing this 80-year rotation, but they just say, 'wouldn't that be cool?' And I want to tell them, 'Hey, we're already doing it, and it works!' It works because you have a really healthy forest and you're still making revenue, and you have healthy communities."

MB&G is not alone. The Confederated Tribes of the Grand Ronde harvest on a rotation cycle of at least 70 years in stands where they use clear-cutting and replanting.

Some large timber companies harvest on long rotations too. Mike Warjone, President of US Forestry at Port Blakely told me about its *minimum* 60-year rotation on 45,000 acres in southwest Washington. Green Diamond, which has invested in learning about carbon offsets

and supported a carbon tax in Washington, is also considering extending its rotations. According to Dave Walters, "It's not an easy thing to model, for sure. But we are taking a swing at it and trying to figure out where it may make the most sense.

## Some doubt long rotations' benefits

Recently, the carbon gains of long rotations have been called into question. For example, timberland owner Richard Pine has heard that harvesting on *shorter* rotations might actually be better for the climate.

This misconception is rampant because representatives of the timber industry are propagating it. Even some professional foresters have been convinced. A Washington State University extension forester told me, "I've read some literature suggesting that it's not necessarily any different to grow two short rotations instead of one long one. You have to think about how long that carbon is going to be stored in a product. If growing trees on an 80-year rotation produced more volume, then we'd see companies do it."



Columbia spotted frog in Desolation Creek, central Oregon. Source: EFM.

No one questions that longer rotations sequester more carbon in living forests. What's debated is whether shorter rotations store more carbon in *timber products* and reduce *net* emissions. Pine calls it "the ongoing debate between carbon in the forest versus carbon in products."

## A side-by-side comparison: 40- vs. 80-year rotations

So, does extending forest harvest rotations produce real climate gains?

Yes, absolutely—even when considering soil carbon, the entire supply chain, carbon in timber products, and potential substitution effects.



Chanterelles harvested near Onion Peak on the northern Oregon coast. Source: EFM.

Richard Pine, who typically aims to harvest his trees around age 65, is *already* harvesting on an extended rotation that is about 20-25 years longer than typical industry practice.

Could he sequester even more carbon by extending his rotations further, say, to 80 years? Yes. Because of their location and species, at 80 years old, his forests are likely still bulking up towards their biological growth maximum, storing more carbon and producing more merchantable timber.

The Northwest Natural Resource Group (NNRG) [modeled carbon sequestration and timber production](#) for a 40-year versus 80-year rotation for a forest near Centralia, Washington, that is close to Pine's own timber lands. It found that over a 100-year time period, doubling the rotation age increased timber production by 52 percent and kept an average of 53 percent more carbon out of the atmosphere.

Specifically, an 80-year rotation, including commercial thinnings, produced 82,000 board feet of timber per acre while a 40-year rotation produced only 54,000 in total over the course of two rotations.

For carbon, over the same 100 years, the 80-year rotation sequestered 319 tons of CO<sub>2</sub> per acre in an average year in wood products, landfills, and forest. The 40-year rotation sequestered only 209 tons of CO<sub>2</sub> per acre over two rotations.

To answer Pine's question of whether short rotations store more carbon in wood products: **The longer rotation stored 13 percent more carbon in wood products compared with two short rotations.**

*For more details and a visualization of these numbers, see [Appendix 1](#).*

## Seeding doubt about long rotations

So why is there speculation that harvesting on *shorter* rotations might actually be better for our climate?

First, the idea of extended rotations is sometimes confused with the idea of reduced harvest, eliminating harvest, or old growth. Those are completely different ideas. Long rotation simply means growing trees longer, before harvesting them, to allow a forest to reach its biological growth maximum and produce more total timber, not less.

Second, [some studies](#) make short rotations look better through bait-and-switch. They associate short rotations with vague terms like “business as usual,” but, in their analyses, their business-as-usual forest stands are older forests whose age qualifies them as a long rotation.

Third, misapplying a “[substitution effects](#)” argument camouflages short rotations’ larger carbon footprint. Falsely assuming that long rotations *decrease* wood supply<sup>4</sup> and unrealistic assumptions about how much energy-intensive concrete and steel would make up the alleged shortage, gives the illusion that short rotations decrease emissions.

Finally, some arguments against long rotations are actually arguments against an abrupt *transition* from short to long rotations. Any transition to long rotations must be carefully planned, not only to support timber jobs and profits, but also to avoid indirect carbon emissions from a temporary dip in lumber supply. I will explore potential strategies to do this in a future article.



Game camera wolf siting in central Oregon. Source: EFM.

## Understanding a forest’s biological growth maximum



A tree planter with a sack full of seedlings. Source: Marcus Kauffman, Oregon Dept. of Forestry.

The biological growth maximum is the harvest age that yields the greatest volume of timber from the land over successive harvests, or what foresters call “maximum sustained yield.” This “biological rotation age” aims to maximize timber yield and is typically higher than the “financial rotation age,” which aims to maximize return on investment.

To understand how extending rotations sequesters more carbon and produces more timber, it helps to think of a tree, in the words of Seth Zuckerman of NNRG, as a photosynthetic factory. As the tree matures, the factory hums along, sequestering more carbon and producing more wood each year.

The key to the biological growth maximum is not wasting the sunshine. After a clear-cut, the sun pours down its photons, but they fall on stumps and seedlings. There are hardly any tree leaves or needles to

<sup>4</sup> See appendix 2 for an explanation of the harvest age that maximizes timber volume.



photosynthesize sunlight and carbon into wood and oxygen. As a result, the photons are wasted, and the land's capacity to grow timber and store carbon is squandered.

In round numbers, it takes at least ten years for a replanted clear-cut to green up and begin to look like a forest again. A 40-year rotation, driven more by a financial rotation age, means that 25 percent of the rotation is spent in the factory rebuilding stage, with timber production and carbon storage on hold.

The biological rotation age, in contrast, accounts for this green-up period. Even though a tree's annual growth rate peaks during adolescence, growth still remains strong long after this peak. Because of the first ten years of snail-paced growth, a tree's *average* annual growth continues to increase well past its age of *peak* annual growth. To reach the age that maximizes sustained timber yield over time, you wait until this average annual growth rate plateaus. (Foresters call this biological maximum the "culmination of mean annual increment" or CMAI.)

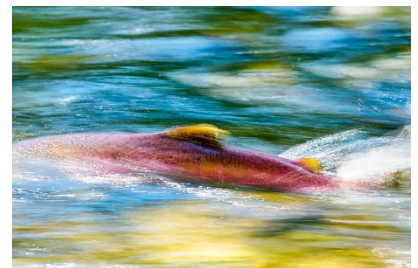
For each year that passes between a young financial rotation age and the biological rotation age, we're better capturing the land's ability to produce wood and store carbon.

***For more explanation and a visualization of why longer rotations yield more timber, see Appendix 2.***

## Long rotations also benefit water retention, soil health, and more

Carbon storage is just one of the myriad benefits from long rotations.

Back in the 1980s and 1990s, when conservationists began trumpeting long rotations, it was not for the carbon benefits but for all of the other forest ecosystem functions, from water retention to soil fertility. At a time when clear-cuts had taken center stage in the US conscience, long rotations were proposed as a way to avoid conflicts between timber communities and environmentalists.



A salmon swims upstream to spawn.  
Source: Marcus Kauffman, Oregon Dept. of Forestry.

**If you double a short rotation, you can cut half as much forestland and produce the same amount of timber.** And while those trees are growing to a ripe middle age of 80, for example, the long-rotation forests are better habitat for creatures like the Olive-sided Flycatcher and the red tree vole and a host of plants that can't thrive on short-rotation plantations. There will still be plenty of younger, more open forests for species that prefer it.

MB&G forester, Edie Dooley, who manages her client's forestlands on an 80-year rotation, sees this up close. "When you harvest half as often, you get less soil disturbance. If you choose to use herbicides and kill everything that first year, with longer rotations you do that half as much, so you have a more intact understory and a better microbial community. When I'm in that forest, I just see a huge diversity of mushrooms, and I don't see that on the short-rotation forests next door. Bigger trees make bigger root systems, your 'leave trees' are bigger, your snags are bigger, your down material is bigger."

## Forestry's future: Getting from short to long rotations

Given all the rewards of extended rotations, why don't more timberland owners adopt the practice?

A litany of challenges bedevils long-rotation forestry. For Richard Pine, a major hurdle is the absence of a mill within economic trucking distance that can process the larger logs that longer rotations produce. Mike Warjone has endured a contraction in Port Blakely's large log market. Edie Dooley worries about potential community impacts from reduced employment during a transition period to longer rotations.

In my next articles, I'll lay out some of the key challenges for transitioning the landscape to long rotations, and some potential solutions.

For now, it's clear that harvesting at a forest's biological growth maximum is a core tenet of carbon-informed forestry. Logging at the biological maximum is how to lock up the most carbon in wood products (in addition to living forests) and is the point at which land owners get the most timber per year per acre.

Yes, long rotations can yield real climate gains for Cascadia... and healthier forests, too.



Richard, Debra, and Kerry Pine after a long day in the woods. Source: Debra Pine.

## Appendix 1: A closer look at the carbon numbers

The model: To [model carbon sequestration](#) for a 40-year versus 80-year rotation in southwest Washington, NNRG used the Forest Vegetation Simulator and conservatively calibrated this model to avoid overpredicting growth in older forests.<sup>5</sup>

Management: Both rotations are pre-commercially thinned at 10 years and commercially thinned at 30 years. (Thinning yields merchantable timber while making room for the remaining trees to grow more vigorously.) The 40-year rotation is then harvested and replanted at 40 years. The 80-year rotation is commercially thinned at 45 and 60 years, and harvested and replanted at 80 years.

Results: Over 100 years, if you add the total amount of carbon stored in the wood products, landfill, and standing forest, each acre in the 80-year rotation stores 87 tons of carbon (sequestering 319 tons of CO<sub>2</sub>) in an average year, ranging from 11 tons of carbon stored in a year during the early days of forest growth to 154 tons just before harvest. On a 40-year rotation, the same acre of forest sequesters only 57 tons of carbon (209 tons of CO<sub>2</sub>) in an average year, ranging, over the 100 years, from 11 to 96 tons.

Specifically, the 80-year rotation stores an annual average of 18 tons of carbon in timber products, 6 tons of carbon in landfills (after the wood products have been used and discarded), and 63 tons of carbon in the forest. The 40-year rotation stores 16 tons of carbon in timber products, 7 tons of carbon in landfills, and 34 tons of carbon in the forest (over two-plus rotations).

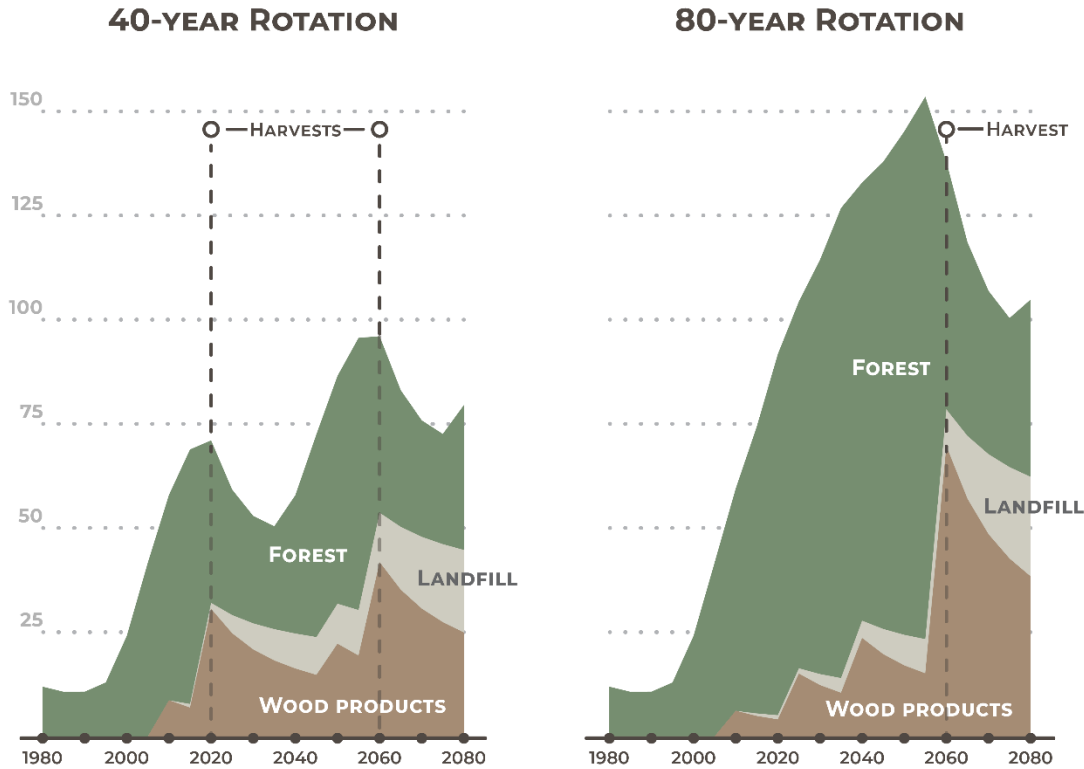
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<sup>5</sup> Under default parameters, the US Forest Service's [Forest Vegetation Simulator-Pacific Northwest](#) (FVS-PN) projects unrealistic growth. NNRG controlled for this by using David Diaz's calibrations based on historical yield tables, permanent plots, and forest inventory data ([Diaz et al. 2018](#)). This conservative approach captures the rapid growth of intensively managed young stands without allowing the fast growth to persist into older age, thus forcing older stands back towards the median observed ranges for older forests. This calibration almost certainly under-estimates potential timber yield of older forests managed intensively.



# Long rotations store more carbon.

Tons of carbon stored per acre (1980-2080)



Source: Northwest Natural Resource Group

Carbon storage from a southwest Washington Douglas-fir forest. Source: [Northwest Natural Resource Group](#)

The figure above illustrates these results. The two graphs indicate where carbon is stored, each year, over the course of a century in a 40-year and an 80-year rotation for a Douglas-fir forest in southwest Washington.

Each color indicates a specific carbon storage category. The green area tracks carbon in the forest (above- and below-ground). The brown tracks the carbon stored in wood products. And the gray tracks carbon stored in landfills.

The silhouette of the green area shows the **total carbon added together** from wood products, landfills, and forest. The locations where the brown area spikes up—for example, in 2060 on both graphs—indicate when the forest is harvested or commercially thinned. At the harvest years, the silhouette shrinks, even though trees are converted to wood products that store carbon, because the branches and tree tops are burned or start to decay. Over the next few years, the silhouette continues to decline as a portion of the carbon stored in wood products returns to the atmosphere.

These graphs show that growing forests closer to their biological growth maximum not only stores more carbon in the living forest, but also in the timber products this forest produces.



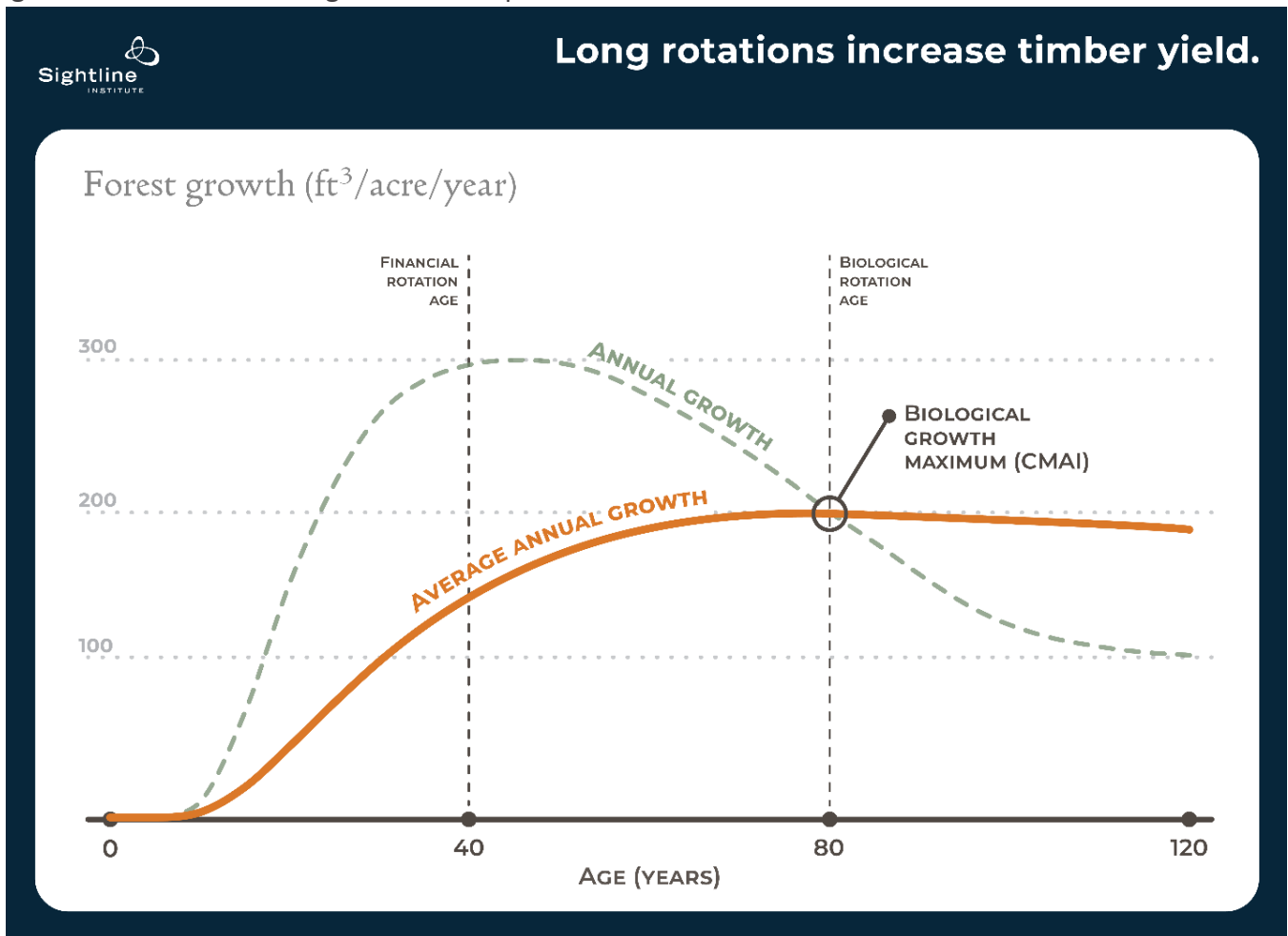
## Appendix 2: A closer look at the biological growth maximum

The figure below illustrates *annual* growth and *average annual* growth for a Douglas-fir forest west of the Cascades. This forest’s biological growth maximum occurs around 80 years.

The “*annual growth rate*” curve (called the “*periodic annual increment,*” or PAI, in forestry jargon) peaks during the forest’s adolescence. However, the forest continues growing steadily long after this peak.

Because it takes at least ten years for a replanted clear-cut to green up and begin vigorously producing wood, a tree’s “*average annual growth rate*” (called the “*mean annual increment,*” or MAI, in forestry jargon) continues to increase, even past its age of *maximum* annual growth. That is, the tree’s total growth divided by its age is still increasing. To reach the biological maximum, you wait until this average annual growth plateaus. (Foresters call this biological maximum the “*culmination of mean annual increment,*” or CMAI.)

The figure shows that the average annual forest growth continues to increase well past a financial rotation age when forest owners log to maximize profits.



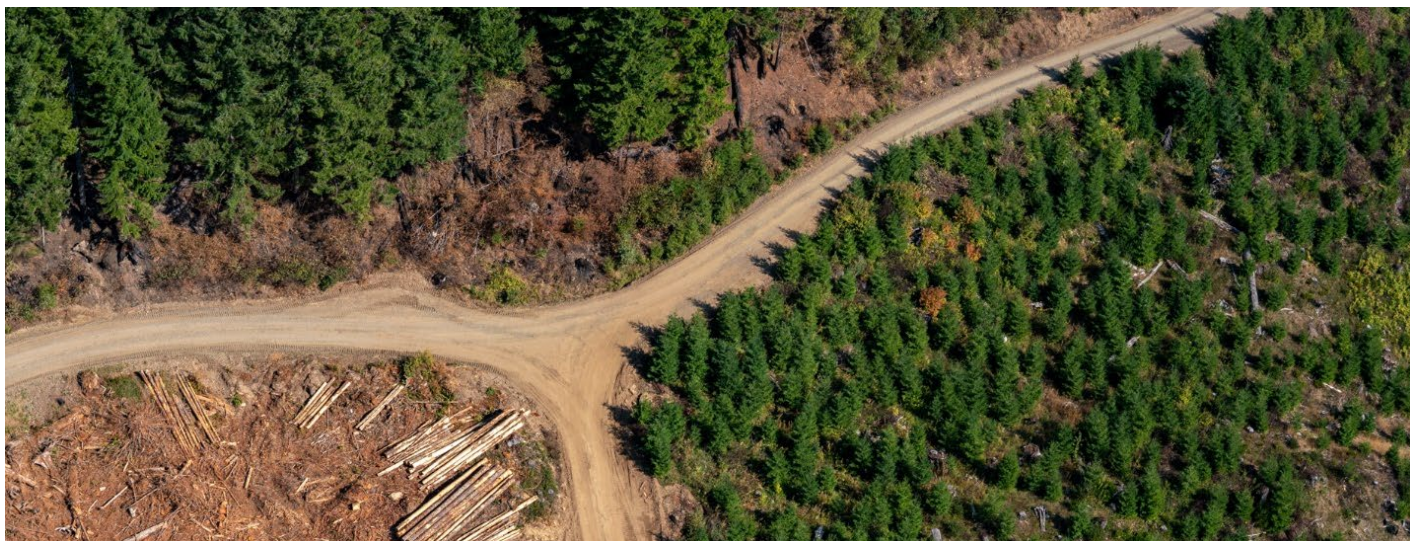
Every forest has a different biological maximum age, depending on tree species, water availability, temperature, soil nutrients, sunlight, and silvicultural management. A lodgepole pine forest in eastern Washington would grow more slowly than the forest illustrated above, and its biological maximum would be older. A loblolly pine forest in the southeastern United States would grow more quickly, with a younger biological maximum.

Managing for longer rotations (for example, harvesting intermediate commercial thinnings) can substantially increase the maximum sustained yield and the biological maximum, for example, [from 75 to 105 years, according to one study.](#)

One challenge in trying to agree on the carbon footprint of different rotation lengths is the uncertainty in predicting a forest's biological maximum. Different modeling and calculation methods have always produced different results, but recent intensification of silvicultural practices (such as multi-year use of herbicide, fertilization, and genetically improved seedlings) has increased annual growth. Because these intensively managed forests are essentially never allowed to grow past a short rotation of 35-45 years, foresters can only speculate on the long-term growth potential as these trees age and the consequent rotation age that maximizes yield. What's more, we have little data on long-rotation forests that are well managed for timber yield. The data on older forests come almost entirely from forests that were minimally managed, hindering any short-versus-long-rotation comparison due to the non-comparability of the available data. The bottom line: Regardless of a particular forest's growth curve, the principle of long rotation forestry remains the same. Growing a forest closer to its biological growth maximum produces more timber and stores more carbon.

# Why Do We Choose Short Rotation Forestry Over Carbon Storage, Timber Supply, and Forest Health?

The discount rate, vanishing large-log mills, and fear of the spotted owl.



Three stands meet in the foothills of the Cascade Mountains in Oregon: a fresh cut, a young stand, and an adolescent stand (Source: Marcus Kauffman, OR Dept. of Forestry).

May 26 2022 | By Kate Anderson, PhD

## Take-aways

There are four main hurdles to long rotations:

1. **A short “financial rotation age”:** Long rotations produce sustained value over time, but not the short-term return on investment sought especially by investor-driven companies that bought up US forestlands starting in the 1980s.
2. **Limited mill infrastructure:** Long rotations grow large, typically higher-quality logs, but most mills today specialize in small logs and either refuse large-diameter logs or pay less for them.
3. **Endangered Species Act:** The historic loss of Pacific Northwest old-growth means long rotation forests provide rare habitat. Forest landowners worry that inviting in the spotted owl could mean they can’t log their trees.
4. **Supply:** Long rotations produce more timber per year than short rotations, but how can timberland owners extend their rotations without causing a 15- to 30-year supply shortage that threatens jobs and raises lumber prices?

Extending timber harvest rotations is on the table as a triple bottom line solution—actually a sextuple bottom line solution. But is it really a good idea, and is it even possible? If so, how do we do it?

In my last article, I posed the question: *do long rotations really boost carbon storage and produce more timber?* [The answer is a resounding “Yes.”](#) This article investigates why today’s forest landowners log on short rotations and what stands in the way of extending rotations. In a future article, I will examine how, through careful planning and public investment, we can overcome these hurdles and transform Cascadia’s forest landscape to long rotations in a way that works for timber-dependent communities.

## Brief review: The six bottom-line benefits of harvesting timber on longer rotations

*(For an extended definition and discussion of long rotations, see [my prior article](#). But here’s a brief review before we dig in on their challenges.)*

A “forest rotation” is the number of years that a crop of trees is grown before the forest is logged and replanted.<sup>6</sup> Long rotations mean growing trees longer before logging.

In the past, timberland owners cut their trees at a “biological rotation age.” A [biological rotation age](#) maximizes the amount of timber that the land can sustainably produce per year over time.<sup>7</sup> For instance, the biological rotation age for Douglas-fir west of the Cascades might be 80–100 years. Today, most timber companies log their forests at a much shorter “financial rotation age,” often less than half the biological rotation age. By doing so, they maximize short-term profits at the expense of long-term timber volume, forest health, and carbon sequestration.

Why are long rotations a *sextuple* bottom line solution? First, they have garnered the most attention for being the best “[natural carbon solution](#)” for [California](#), [Oregon](#), and [Washington](#) (that’s #1 of 6). Modelers also show that long rotations produce [more total timber](#) as well as [higher quality](#) and [more valuable](#) lumber for building homes (that’s #2).

And, at a time when Washington and Oregon are scrambling to plan for wildfires (and pay for them), it turns out that long rotations likely [mitigate fire severity](#) (#3). Long rotations also improve [water quantity and quality](#) and serve as [habitat for rare wildlife](#) (#4 and #5). Finally, if history is a guide, extending rotations could help return [stability to timber markets](#) and flourishing economies to rural timber communities, if we can get past a transitional supply dip (and that’s #6).

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<sup>6</sup> Or, in a mixed-age forest, it is the age when the oldest trees are cut.

<sup>7</sup> Using the term “biological rotation age” to describe the age that maximizes sustained yield (MSY) is a useful shorthand, but it does risk creating the belief that the MSY age also maximizes forest biological integrity and ecological health.



## If long rotations are so much better, why aren't they more common?

### #1. The time value of money

As mills sold off timberlands starting in the 1980s, the new owners changed from long rotations that maximize a steady supply of timber for the mill to management that maximizes their return on timberland investments (ROI).<sup>8</sup> This is especially true for investor-owned Real Estate Investment Trusts (REITs)<sup>9</sup> and Timberland Investment Management Organizations (TIMOs),<sup>10,11</sup> which currently own a majority of private US timberlands. Large, family-owned timber companies also need short-term profits, especially if they want to invest in complementary businesses or grow their landholdings. It's more lucrative to log short rotations on more land than long rotations on less land.

TIMOs and REITs have raked in windfall profits. From 1990 through 2007, TIMOs averaged a whopping 13 percent return on investment,<sup>12</sup> exceeding the 11 percent averaged by the S&P 500 over the same period, with far less volatility (i.e., making them less risky).

When forestland is held as a financial investment, it must appreciate as fast as Apple or Tesla stock, or other competing investments. Investors want *compounding growth*,<sup>13</sup> which means that value increases exponentially over time.

The *opportunity cost* of not cashing in the trees now and investing in lucrative land deals or Tesla stock means that income received in the future from long rotations is essentially worth less than the same income received today. This is why selling a smaller volume of timber today can be worth a lot more than selling a bigger volume in the future. To find out how much a future timber sale is worth in today's dollars (called net present value, or NPV), companies reduce future income by a discount rate<sup>14</sup> equal to the rate of return that they can expect on alternative investments.

<sup>8</sup> The narrow focus on ROI is most extreme in investor-owned companies. According to Elaine Oneil, PhD forest scientist: "As soon as it goes public, everything changes. It's no longer based in the objectives of the company owner, which often include a lot besides money." Most executives at investor-owned companies are now paid overwhelmingly through stock options and bonuses tied to stock performance. While some investors include the retirement funds of regular Cascadians like you and me, that only highlights the problem: most people choose their savings portfolio solely to maximize their rate of return, knowing nothing of the forest ecosystem supporting their timber investment.

<sup>9</sup> The main driver for REITs, as codified in a 1960 tax law, is that they do not pay taxes on their income; only shareholders pay taxes on dividends received and capital gains.

<sup>10</sup> TIMOs, originally codified in a 1974 tax law, accelerated when a 1986 tax law barred forest product companies from using the lower capital gains tax rate for timber harvests, precipitating the sale of timberlands to tax-exempt investors like pension funds, foundations, and endowments.

<sup>11</sup> REITs and TIMOs exacerbate the focus on shareholder value. According to Oneil, "Weyerhaeuser went public before they became a REIT, but the real changes came after they re-organized the business model."

<sup>12</sup> TIMO returns were negative for a year after the financial crisis of 2008 but have since been increasing. For the western states of California, Idaho, Oregon, and Washington, the 2021 ROI was 14.42%, but has since declined.

<sup>13</sup> Compounding growth means that the interest paid on each year's investment becomes part of the following year's capital. For example: If you invest \$1 at a 7 percent interest rate, you'll get \$1.07 over the first year. The extra 7 cents are then added to your capital. So, over the second year, instead of making 7 cents again, you will make 7.5 cents. In year three, your capital starts at \$1.15, and you'll earn 8 cents. Your investment has now grown to \$1.23, which at 7 percent, will yield 8.6 cents in year four. Your annual return on investment grows larger each year. By year 40, your \$1 investment will grow to \$15, and it will shoot up to \$224 in 80 years. With compounding growth, doubling the investment period from 40 to 80 years returns 15 times more money.

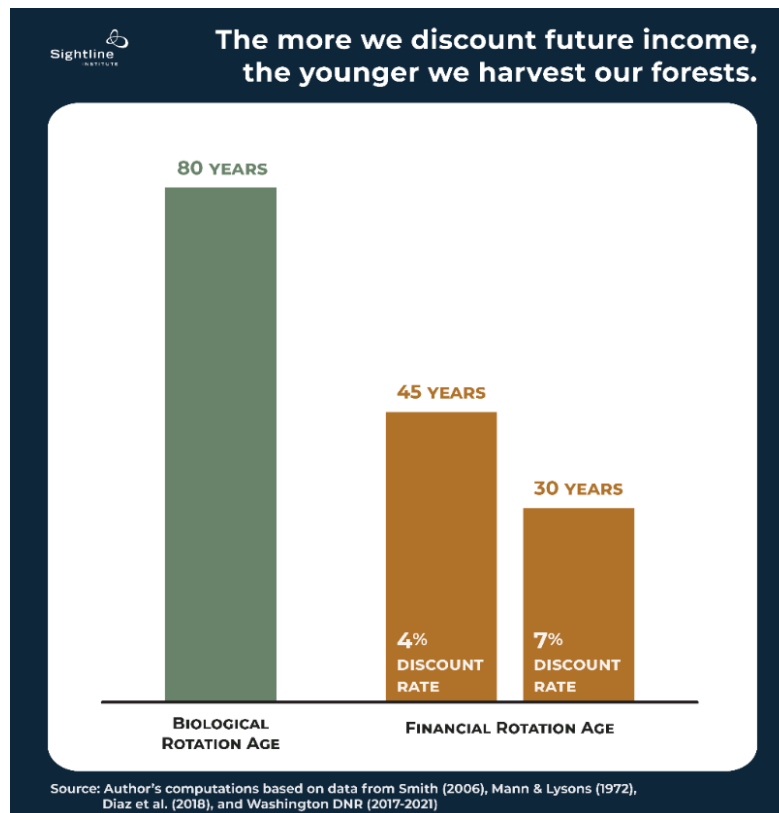
<sup>14</sup> The discount rate is the rate of return by which you expect or need your investment to grow to compete with alternative investments. To find out the net present value (NPV) of future revenue, we reduce the future earnings by a discount rate, compounded annually. You can think of

The value of a forest grows as the trees mature. Through a forest's adolescence, trees grow faster than the rate of return on Tesla stock—so they're still increasing in today's dollars, as calculated with a discount rate equal to the rate of return on Tesla stock, for example.

Eventually, two things happen. First (and most importantly), because of the compounding rate of return, the Tesla investment grows by more and more each year, soon outpacing tree growth. Second, the trees' annual growth begins to slow down. The forest continues strong average annual growth, but it is not accelerating as it did in its youth.

Companies calculate when to harvest—the financial rotation age—based on a discount rate they set at their needed rate of return. They harvest at the age that maximizes the value of the future timber harvest discounted into today's dollars. In the figure below, the gold bars indicate the financial rotation ages that result from using a 4 percent discount rate (which roughly corresponds with some states' forest management) or a 7 percent discount rate (closer to TIMO or REIT management).

You can see how small changes in the chosen discount rate cause big changes in the age when forests are logged. Compared with the biological rotation age (the green bar in the figure), discounting future harvest income, even with a low 4 percent discount rate, slashes the rotation age by 35 years. Using a 7 percent discount rate shrinks rotation age by 50 years (see the methods section below for more details).



**Biological rotation age versus financial rotation age for a Douglas-fir forest west of the Cascades. Numbers will vary for different forests and market conditions.**

discount rates as the reverse of interest rates. A company's financial team considers multiple factors when deciding what discount rate to use in their business planning, such as their goals, their debt burden, timber prices, risk, and interest rates. Franklin, Johnson, and Johnson's *Ecological Forest Management* textbook (2018) has an excellent primer on classical investment analysis.

Getting their money upfront means more profits for timber companies and investors, but less value for everyone else. One long 80-year rotation yields more lumber than two short 40-year rotations, as well as more carbon savings, a better home for the many species that prefer old forests, and more cool and clean water. These are the opportunity costs of short-rotation forestry.

Rotation length is one of many ethical controversies stemming from the discounting of future values and ecological benefits, from habitat to mitigating climate change.<sup>15</sup> But don't despair! In my next article, I will discuss ways to bridge the gap between financial and biological rotation ages and incentivize landowners to grow older forests.

## #2. Mills and engineered wood

A second, related hurdle for long rotations is a lack of mills tooled to process the large-diameter logs from older trees. Most mills today do not accept large logs (i.e., over 20 to 28 inches in diameter), and if they do, they typically discount them 10 to 30 percent because they are more labor-intensive to cut.

For Richard Pine, who owns timberlands in the southwest corner of Washington, there is not one mill within economical trucking distance set up for his large logs. Pine said, "Because our trees are too big, even at 65, for mills in this area, we long-butt them: we leave 10–15 feet on the bottom, and then start cutting our logs above that. Or we're selling them as cheap wood for firewood and pulp."



The narrow opening of a mill's small-diameter "ring debarker" is just one part that limits log size (Source: Eric Simmons, US Forest Service).

Since the 1980s, the mill infrastructure has shrunk in number from many small-capacity mills tooled for large logs, scattered across the landscape, to a much smaller pool of high-capacity mills that are extremely efficient and highly specialized for small logs (i.e., 7 to 11 inches in diameter).

In the past, mills paid a premium for large logs. Older trees mean wider and longer boards that can serve a greater range of purposes. The denser and stiffer wood makes stronger lumber and, if managed well, contains more premium knot-free and straight-grained "clear wood." Large logs also mean more lumber out per volume in (i.e., less wasted wood) as round logs are sawed into rectangular boards. On average, the *value* of older trees is up to 55 percent higher per board foot compared with

younger trees. But today, this value typically doesn't translate into log price.

Older trees still produce superior wood, so why don't mills want them anymore? The answer lies in a perfect storm of insufficient large-log supply, corporate restructuring, mill automation, and engineered wood product technology. (But, ultimately, the main culprit is the financial rotation age.)

<sup>15</sup> For example, the discount rate discourages coastal restoration and wetlands protection projects because the costs are borne now, so they aren't discounted, but the benefits are enjoyed in a discounted future. Similarly, discounting future value also means a low price for carbon offsets because the future damage of climate change is so steeply discounted, but the costs of mitigation are counted in today's non-discounted dollars. So, even if markets were to account for non-timber forest functions, the discount rate reduces their value relative to the present-day costs of protecting them.

When old-growth forest was plentiful in the US West, the timber sector hummed along processing large old-growth logs and large logs from long rotations. Gradually, the old growth was used up, and, as an outcome of [tremendous conflict](#), in 1994, the Northwest Forest Plan drastically restricted logging in the remaining supply to protect the northern spotted owl. In response, private lands increased their harvest rate and logged on shorter rotations.

The contraction in large-log supply coincided with breakneck corporate restructuring, consolidation, and automation across the entire US economy during the 1980s and 1990s. [Mergers and acquisitions in the wood products sector](#)—just like the retail grocery market, airlines, and almost every other sector—[aligned CEO compensation with shareholder return on investment](#). This forced companies to focus on short-term profits and high efficiency. Fewer but larger mills, located near highways or railroads, yield higher profits than scattered smaller mills. Smaller and more uniform logs jibe with the automation of mills, which lowers labor costs (by up to two-thirds) and propels profits.

Around the same time, the rise of engineered wood product technology decoupled the construction sector from its reliance on large lumber. According to Dr. Kent Wheeler, who directs the Center for International Trade in Forest Products (CINTRAFOR), “What used to be a solid piece of lumber, now it’s an I-joist, glulam, OSB, or CLT.” Oriented strand board (OSB), cross-laminated timber (CLT), and these other products are made by gluing together sawdust, wood fiber, chips, or small-dimension lumber. Today, the construction sector has fully integrated the new technologies. People know how to use them, and building practices have adapted. Now that these alternatives are available, builders won’t necessarily pay a premium price for solid wood to replace an I-joist that will be hidden from view behind drywall.



A construction crew installs a cross-laminated timber panel (Source: Marcus Kauffman, Oregon Dept. of Forestry)

Port Blakely, a timber company known for its long rotations, witnessed its large-log premium go from standard, to niche market, to practically nil, as engineered product proliferated. Back in 1996, when Port Blakely’s large-log market was booming, it negotiated a [50-year habitat conservation plan](#) (HCP) as insurance in case its long rotation habitat invited in the spotted owl. Part of the deal was maintaining the company’s 60-year rotations.<sup>16</sup> (More on HCPs below.)

Twenty-five years later, despite their efforts at creating flight corridors, understory canopy, and habitat for flying squirrels and other owl prey, the spotted owl still hasn’t moved in. But Port Blakely’s Asian large-log market has evaporated. According to Mike Warjone, President of its US forestry operations, without this market, the 60-year rotations required by its HCP cost the company somewhere in the realm of 7–8 percent in revenues on those stands. Plus, it’s now forced to manage for high density (and thus lower quality habitat) in order to grow skinny 60-year old trees to fit into small-log mills. Without a premium market for large logs, Port Blakely has shifted to shorter rotations on its other forests, and it did not include long rotations in its recently negotiated HCP in Oregon.

<sup>16</sup> According to Warjone, no spotted owls ever moved in, despite their efforts at creating flight corridors, understory habitat, and habitat for owl prey, such as flying squirrels, lichen, and rodents.

Is competition from engineered wood responsible for today's short-rotation forestry? Or is engineered wood the market's response to a chronic shortage of large logs? According to Dr. Wheeler, "There's always a market [for large logs]. It's the mills; that is the question."

But are the mills really the bottleneck? Nathan Nystrom of Hull-Oakes says, "Yes and no. In the 1990s, when they started cutting smaller trees, the mills re-tooled. If larger trees will start coming out of forests, mills can re-tool again."

One forest owner, even a large one like Pork Blakely, cannot revive a large-log mill infrastructure. It's a tough chicken-and-egg problem to solve. But it seems that ultimately the decisive factor limiting mill demand for large logs is the financial rotation age. Wheeler sums it up: "Markets respond to the resource that's available." If larger logs were abundant, would it still be cheaper to create a glulam beam? If there was a reliable supply of large logs, then mills, engineered wood technology, and construction practices would adapt.

It's crucial that the transition back to larger-diameter logs be less devastating and divisive than the upheaval of the 1990s. If done well, it could reverse job loss and revitalize timber-dependent communities. Reinventing large-log manufacturing and a dispersed mill infrastructure, sited closer to forests, could offer more economic opportunities for otherwise isolated woodland owners and communities and would lower the financial and carbon costs of trucking logs to faraway mills. Our mill infrastructure has 40 years to make the transition. At current profit margins, that is plenty of time for today's mills to recover their capital investments and plan for the future.

### #3. The Endangered Species Act: Fear of the spotted owl

Perversely, another obstacle to long rotations is the Endangered Species Act (ESA).

A century of intense logging of Pacific Northwest old-growth forests threatened extinction for the spotted owl, marbled murrelet, and other species dependent on old-growth habitat. Now, the Endangered Species Act (ESA) prohibits the "take" of these species, including harassing or harming them, or destroying habitat needed for breeding, feeding, or sheltering.

Especially when managed for habitat, long rotations can support certain aspects of old-growth habitat, such as large trees, rich food webs (including lichen, insects, rodents, and flying squirrels), high canopy layers, standing dead trees (called snags), and open spaces for flying underneath and between trees.



A spotted owl swoops down to catch a mouse (source: Emily Brouwer, National Park Service).

Many forest managers worry that extending their harvest rotation might welcome in an endangered species, triggering ESA protections that prevent logging. Richard Pine told me, "We don't want to invite the spotted owl in... We want to do our part for the environment, but also to make sure we have trees that are harvestable." In one area of Washington, for example, if a spotted owl nest is found on private land, state regulations prohibit logging on 70 acres around the nest.

According to Mark Rasmussen, a forest economist and principal at Mason, Bruce & Girard, it is standard industry practice for landowners, as company policy, to never let their forests get old enough to become suitable habitat. If a landowner does



want to grow older and larger trees, they might avoid creating habitat by isolating the older stands from Forest Service land or other protected habitat and by either planting too densely for animals to thrive or spreading the trees far apart from each other.

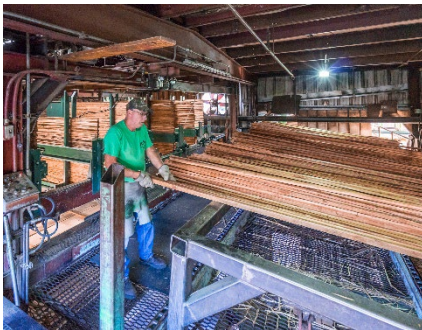
An increasingly common way to manage these perverse incentives is for landowners to negotiate a deal with federal agencies to get a degree of immunity from ESA liability. Under a [Habitat Conservation Plan \(HCP\)](#) or [Safe Harbor Agreement](#), landowners agree to specific habitat-promoting forest management practices—such as riparian buffers for salmon or minimum 65-year rotations and flight corridors for spotted owls—in exchange for an “incidental take permit” that allows unintentional but not unexpected harm to some habitat or some individuals.

One problem is that HCPs are expensive. According to Warjone, negotiating an HCP similar to the one it recently negotiated on 30,000 acres in Oregon could cost a landowner over \$1 million. Port Blakely’s land holdings are large enough to make this a reasonable cost of business. But small forest landowners, who tend to [value provision of wildlife habitat and environmental benefits above production of timber products](#), typically cannot afford HCPs. ESA administration has and must continue to adapt.

It’s unclear just how much risk the ESA poses to private landowners. Under industrial timber management, it’s rare for a spotted owl to move into a private forest; they are listed as threatened for a reason. But that could change with long rotations.

#### #4. The supply paradox: how do we get back to long rotations?

A huge challenge in extending rotations is how to bridge the supply gap during the transition. The irony is that longer rotations produce more timber per year. But today’s timber industry is trapped in a short rotation equilibrium, where extending rotations could jeopardize near-term profits, jobs, and supply.



Malheur Lumber in John Day, OR (Source: Marcus Kauffman, OR Dept. of Forestry).

“Before, you could just see how it would all work,” explained Edie Dooley, a forester with Mason, Bruce & Girard. “Long rotations kept the mills supplied.” But when harvest increased on private lands and rotation age decreased, “it derailed the whole thing,” Dooley said. “Now, how do we get back there? That is the big struggle. It will take a while. We need to do it incrementally and spread it over geography. Otherwise, you’re just going to kill your industry, communities will suffer and all the logging firms, and we’re not producing renewable resources.”

Court Stanley, former president at Port Blakely, said, “Once a company decides to reduce the rotation age, it’s almost impossible to go back up. Because you have to stop cutting, and cash flow stops. It’s possible, but revenues would drop dramatically.”

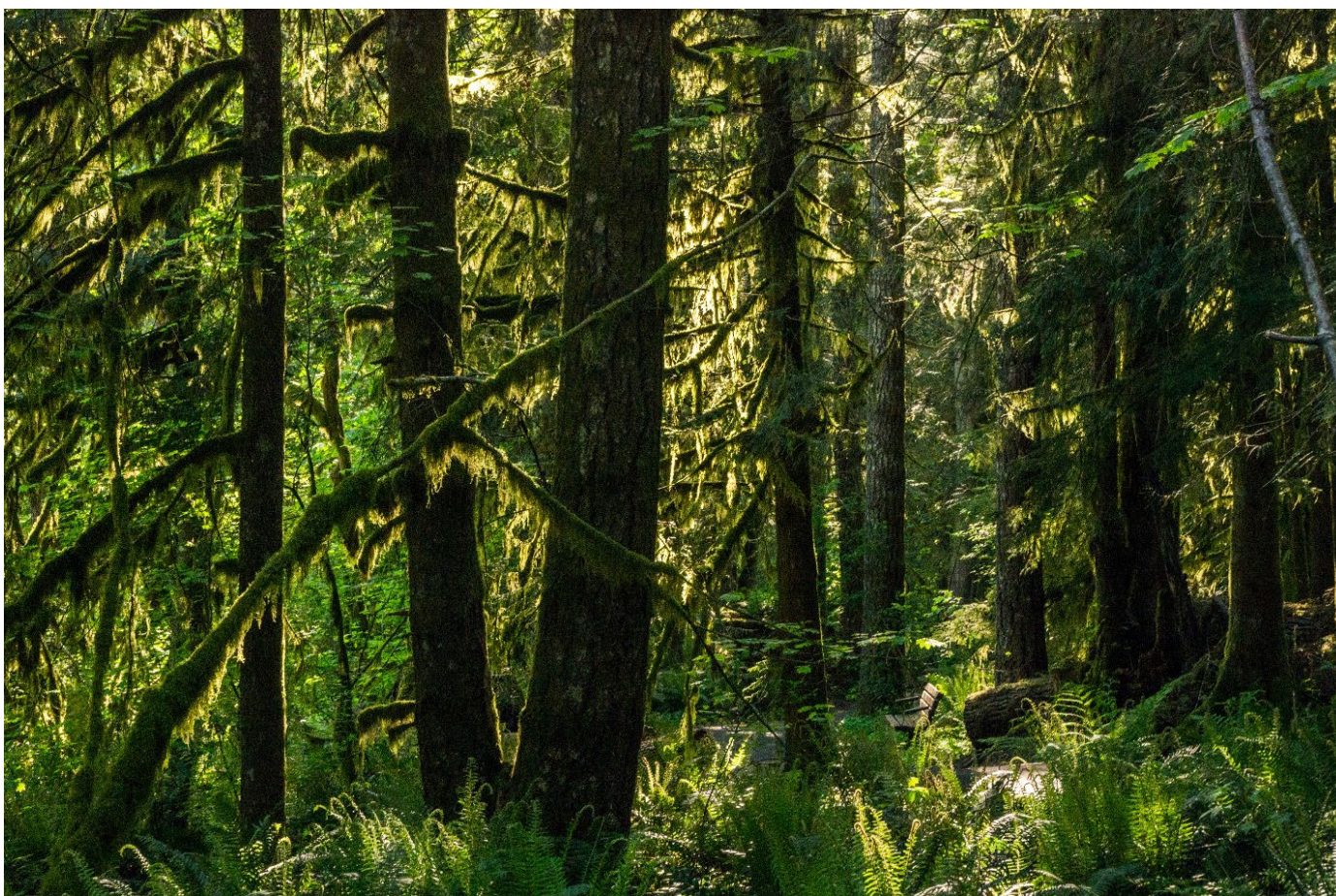
Climate change only makes the supply challenge worse. Today, [floods, mudslides, fires, drought, and pests are voraciously eating into timber supply](#). Long rotations [extend the period](#) that timber is exposed to these risks. However, another irony is that [older forests experience lower fire severity](#) compared with younger, intensively managed forests, even during extreme weather conditions.

## Growing out of short rotations

Off the record, an Oregon forester confided, “I’ve flown all over the state, a lot. I tell you, the footprint of bare ground in the Oregon Coast Range is astronomical. It’s just not sustainable. We need to figure out some way to keep the trees on the landscape longer. At this point, we’re growing corn.”

Longer rotation forests are more functional forests, both economically and ecologically. They nurture the land’s capacity to grow timber, a high and stable supply of quality logs, reliable timber jobs, and a plethora of ecosystem services. But with so many challenges, it feels like the timber industry is trapped.

Is there a way out? Perhaps. Efforts are already underway to unlock this short rotation equilibrium. Ecological investment strategies could reduce management costs and capture alternative revenues. Public support could buoy a decentralized infrastructure of versatile mills, and [research on where to site large-diameter mills](#) has already begun. An “all lands” approach, including a gradual patchwork strategy on specific parcels, could bridge the supply gap.



Clackamas County, OR (Source: David Prasad).



## Methods

To calculate how the discount rate changes rotation age, shown in the bar graph, I first estimated the net present value (NPV) function of future timber harvests using the discount rates of 4 percent and 7 percent. Next, for each discount rate, I found the rotation age that maximizes net present value.

I chose the discount rates to illustrate a realistic spread: 4 percent is an approximation for state forest management (although many state agencies realize that sustained cash flow over time is more useful than targeting a specified rate of return); 7 percent is an approximation for TIMOs and REITs and likely a ceiling for private forests. In reality, different companies choose their specific discount rate based on their particular goals, opportunities, and market conditions. In the recent past, TIMOs have used discount rates as high as 13 percent, but they are typically lower. Federal forests are not managed for ROI, and the goals of small woodland owners are too diverse to capture with a discount rate exercise.



# Seven Ways to Pay for Long Rotations

## Public investment is the key to sustainable forestry.



Once on the verge of intensive logging and development, former SDS Lumber Company lands in southwest Washington are now protected by working forest conservation easements. Source: [@ianshivephoto](#) / [@tandemstock](#)

September 12, 2022 | By Kate Anderson, PhD

### Take-aways

The tools needed to fix the short-rotations market failure already exist.

- Short rotations are what economists call a “market failure.”
- The (public) ecological benefits from long rotations are often worth double the (private landowners’) costs of delaying harvest.
- Creating new markets to pay landowners for extending their rotations, such as carbon markets and sustainability certifications like FSC, can help, but they suffer market failure as well.
- Federal and state programs to pay landowners are already in place and can be scaled up if the U.S. Congress were to appropriate sufficient funds.
- Funding working forest conservation easements (WFCEs) may be the most affordable and scalable tool, while sustainable sourcing and other market tools help build awareness and supply chain capacity.
- At scale, extending rotations on millions of private timberland acres will likely require complementary tax code modifications and new protective policies.

*This is the fourth installment in a six-part series discussing how to increase the age when trees are harvested. “Long rotations” refers to delaying logging and growing forests past a short “financial rotation age” to an older “biological rotation age” that stores more carbon, produces more timber, and improves forest health, water quality, and wildlife habitat. [View the full series here.](#)*

Where timber plantations were once logged intensively on short rotations, older and more complex forests now stand on [the 9,400 acres owned by the van Eck Trust](#) in Oregon and California. The new practices store more carbon and offer ideal stream conditions for salmon as well as habitat for marbled murrelets and northern spotted owls. Legal agreements called working forest conservation easements (WFCEs) protect these forests from conversion to agriculture or development, and the van Eck easements include prescriptions that also guarantee improved forest management, including growing older trees, into the future.

In defiance of the false jobs-versus-environment dichotomy, these forests produce millions of board feet of timber each year, supporting loggers, truck drivers, mill workers, foresters, and biologists. Selling carbon credits from its California forests adds another income stream for the Van Eck Trust.

The practice of [“long rotations” means growing trees longer before logging them.](#) It extends the length of a harvest cycle from a short “financial rotation age” that maximizes net present value to a longer “biological rotation age” that maximizes timber production as well as carbon storage, habitat, and water quality.

Economists call the ecological harm of intensive short-rotation logging a [market failure](#). That is, when the environmental benefits are accounted for, long rotations increase the wealth of society as a whole by more than enough to pay landowners to delay harvest. Of course, though, without countervailing action, such payment does not occur.

Meanwhile, timber companies do not have to pay the environmental costs of short rotations. These are often unseen [“environmental externalities.”](#) And long rotations’ ecological benefits, because they are [public goods](#) that everyone can enjoy whether or not they cut a check to the landowners and investors, suffer from a lack of adequate voluntary funding: the [free rider problem](#). This means that timberland owners, for whom [delaying harvest comes at a steep cost](#), can’t get paid for their work of stewarding these trees through long rotations. It’s a cycle that cheats the foresters, society, and the environment.

In ballpark figures, fixing the short-rotation market failure on the [8 million acres of private industrial forest](#) in western Oregon and Washington would cost around \$16 billion.<sup>17</sup> That sounds steep, until one learns that it would generate around \$40 billion in carbon storage benefits alone.<sup>18</sup> That is over 100 percent return on investment.

Is there a way to fix this market failure? Economists have traditionally recommended two kinds of solutions: regulate companies or privatize benefits. Starting with the second option, Sightline examined seven existing mechanisms that Cascadians could use to pay landowners what it costs them to grow older forests, incentivizing those landowners to do so while also supporting the ecological benefits regional residents and people around the globe so appreciate about their forestlands. While we did not perform a robust

<sup>17</sup> \$16 billion is a rough estimate of the cost to purchase a working forest conservation easement that specifies older forests, typically between \$1,000 to \$3,000 per acre, on all 8 million industrial acres.

<sup>18</sup> Multiplying the social cost of carbon, [\\$51 to \\$100 per ton CO<sub>2</sub>e](#), by the additional 110 tons of CO<sub>2</sub>e sequestered per acre in long rotation forestry over 8 million acres yields over \$40 billion.



quantitative analysis that accounts for feedback and equilibrium effects, we did examine the current size and shape of these mechanisms and we compared them with both the carbon storage benefits of long rotations and their costs to landowners.



Following the terms of a working forest conservation easement (WFCE), selective logging creates a small patch opening for canopy diversity, leaving a healthy amount of older trees in the Van Eck Forests of Lincoln County, Oregon. Source: [Pacific Forest Trust staff](#).

Because forest health and carbon storage are public goods that are vulnerable to free-riding, voluntary mechanisms alone—carbon markets, sustainable sourcing, sustainability certifications, and impact investing—cannot meet the scale needed to fix the short-rotation market failure. (In other words, these voluntary markets also suffer from market failure.)

But two existing and time-tested US federal programs could. The Forest Legacy Program (FLP) and the Healthy Forest Reserve Program (HFRP) could pay landowners for long rotations at the scale needed to fix the short rotation market failure. FLP appears to be more cost-effective than HFRP because it funds ecological working forest conservation easements (WFCEs) that ensure older forests in perpetuity. For either program to fund older forests at scale, what is required are minor modifications to their current rules and an adequate appropriations bill in Congress.

Congress likely will not pass such an appropriations bill until the widespread belief that “wood is wood” (and that “it’s all renewable so it’s all good”) is replaced with an understanding of the climate and ecological benefits of older forests. Nearly all ways of paying for long rotations can promote this shift. For example, even though it may not sufficiently scale, sustainable wood sourcing policies may be the most effective of the tools that Sightline examined at spreading sustainable wood literacy among the general public, builders,



engineers, mill personnel, and foresters. Consciousness-raising is one way that these seven mechanisms to pay for long rotations are more complementary and synergistic than simply additive.

## 1. Fund ecological working forest conservation easements (WFCEs)

When it comes to storing carbon in forests, perpetuity is the gold standard, and [working forest conservation easements](#) (WFCEs) offer a versatile and effective tool to restore and then permanently maintain older forests. Conservation easements are legally binding agreements that stay with the land in perpetuity, even when the land is sold or passed on to heirs. WFCEs most commonly protect a working forest from conversion to development, but many also require additional prescriptions for improved forest management.

While these additional prescriptive terms could explicitly specify long rotations, they tend to be more flexible and to focus on a broad suite of ecological functions that end up yielding older trees anyway. For example, [the WFCE on the Mountcrest Forest](#) at the California-Oregon border, does not specify long rotations per se, but its harvest limit of no more than 25 percent of the mature trees in any decade leads to 80-plus-year rotations.

When I asked Laurie Wayburn, co-founder and president of Pacific Forest Trust, if monitoring this kind of prescriptive conservation easement is tricky or cost-intensive, she assured me that it's not. "It's straightforward and simple," she said. "It's based on standard forestry practices and measurements." Land trusts and landowners agree on [clear metrics, such as the percentage of trees retained in the forest after a harvest or the size of any openings that are clear-cut](#). Wayburn explained, "You're not standing behind a tree and saying, 'Don't cut this.' That's all left to the forester's art and science. But you are monitoring a few simple, clear metrics that everybody can identify."



Landowner, Jud Parsons (right); Pacific Forest Trust (PFT) Board Member, Stuart Bewley (middle); and PFT President, Laurie Wayburn (left) tour Mr. Parsons's Mountcrest Forest property, protected by a working forest conservation easement.

Photo Credit: PFT

For a landowner, selling an easement generates immediate revenue while allowing continued use of the land. An ecological WFCE usually costs about half the market price of buying the land outright. In today's timberland market, this could easily be \$1,000 to \$3,000 per acre. And forestland with development potential would be more expensive.

That amounts to a lot of money, but it can be a very good deal. The break-even cost of paying industrial forest owners to delay logging for a contract period of 40 years can quickly approach the cost of buying long rotations in perpetuity or even just buying the land. For example, the Pacific Forest Trust recently orchestrated the purchase of a perpetual easement worth about \$1,630 per acre on the Mountcrest Working Forest near Ashland, Oregon. For comparison, according to their own calculations, it may cost Port Blakely over \$6,000 per acre, in net present value, to delay harvest by 20 years as part of its Winston Creek Forest Carbon Project. Paying upfront for a WFCE is cheaper because the public doesn't discount the future benefits of protecting our ecosystems and our climate nearly as steeply as the market discounts future harvest revenue. Plus, land will only get more expensive, so now is a good time to buy WFCEs.

But is there funding to pay for WFCEs? In short, not even close. Funding long-rotation conservation easements on all 8 million acres of western Oregon and Washington forests currently logged on short rotations would cost on the order of \$16 billion.<sup>19</sup> And that's not considering the higher prices for timberland at risk of development.

WFCEs are funded by a diverse array of local, state, philanthropic, and "transfer of development rights" programs. The single largest funding source is the United States Department of Agriculture (USDA) Forest Legacy Program (FLP), which funds WFCEs on ecologically valuable land at risk of development. In 2021, Oregon and Washington together received \$14.2 million in FLP funding.<sup>20</sup> Assuming state matching at 25 percent, this comes to about \$18 million. So even if the entire budget focused on extending rotations, current funding levels could only finance easements on about one-tenth of one percent of the timberlands currently logged on short rotations west of the Cascade Mountains.

The beauty of the FLP, though, is that it already exists. No new laws have to be passed. The USDA, Washington DNR, Oregon Department of Forestry, local Forest Service districts, and local land trusts already have experience with FLP. To fund older forests at scale, all that is required are minor modifications to current FLP rules<sup>21</sup> and a historic appropriations bill in Congress, which could theoretically happen as early as the 2023 Farm Bill.

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<sup>19</sup> Again, \$16 billion is a rough estimate of the cost to purchase working forest conservation easements that specify older forests on all 8 million industrial acres.

<sup>20</sup> This 2021 amount was dispersed after the FLP budget increase of nearly 50 percent, beginning in 2021.

<sup>21</sup> Needed modifications include: covering parcels not at risk of development and allowing easement appraisals to account for land appreciation (the full "speculative value"), which is often the main reason Timberland Investment Management Organizations (TIMOs) and Real Estate Investment Trusts (REITs) hold timberland.

## 2. Expand the Healthy Forests Reserve Program

Protecting forests in perpetuity is both the advantage of WFCEs and also a hurdle for landowners. As Arne Hultgren of Roseburg Resources cautioned, easements do reduce an owner's options. ["It's like getting married,"](#) he said. "You give up certain things but you gain certain things."

For timberland owners not ready to say "I do" forever, could federal incentive payments that induce landowners to delay their harvest by 20 or 40 years be effective? This would essentially be renting an extended rotation: storing carbon for a contractual period, after which the owner is free to develop the land or return to short rotations (both of which would release the extra carbon stored during the contract period back to the atmosphere), or they could sign up for another contract period once the initial one ends.

This is the basic model of USDA's long-standing and well-funded [Conservation Reserve Program](#) (CRP). Started in the 1950s to prevent erosion and protect native habitat, the CRP now pays farmers on 10- to 15-



Bruce Pantzke's CRP-enrolled land enhances pollinator habitat and provides nesting cover for upland game and waterfowl. Source: USDA photostream.

year contracts to remove marginal farmland from production. In 2022 about [25.5 million acres](#) are enrolled in CRP across the United States. For timberlands, the CRP counterpart is the much [smaller and unevenly implemented](#) USDA [Healthy Forests Reserve Program](#) (HFRP).

Farmers that enroll in CRP receive an annual per-acre payment ranging from \$10 per acre to nearly \$300 per acre. In Lewis County, Washington, for example, [the 2020 CRP payment was \\$64 per acre](#). Total CRP payments to farmers in [Oregon](#) and [Washington](#) average about \$120 million each year (or \$4.8 billion over 40 years). If an equal amount went to the HFRP, forests could live an extra 40 years on somewhere around 10 percent of timberlands that are currently managed on short rotations.

It is an unresolved question just how effective such a program would be at changing forest owners' logging plans as opposed to mainly attracting forest owners who weren't planning to log anyway. Plus, as with carbon markets, the public would need to keep paying landowners for short-term carbon storage in perpetuity in order to maintain the climate gains. As a result, this short-term rental approach may do more harm than good by diverting money and political will away from more long-lasting and cost-effective investments.

## 3. Establish long rotation certification

We've heard that we can ["vote with our forks,"](#) but can we "vote with our hammers"? A growing movement is saying we can. The idea is that if we are troubled by the timber sector's practices, we can change the system by spending our dollars on wood products that align with our values.

This is only possible if products that meet our values exist and if we can identify them. With the plethora of food labels today (local, grass-fed, organic, humanely raised, and so on), it is hard to remember a time when food was just food.



In the timber sector, groups like the [Forest Stewardship Council® \(FSC\)](#) are trying to chip away at the notion that “wood is wood.” The idea is that certification can change how commercial forestry is practiced by giving consumers the information they need to vote with their dollars. When you see the FSC label on a package of toilet paper or a bin of Douglas-fir boards, you know the forests of origin were managed sustainably (for example, [without herbicides](#)). To recoup the extra cost of FSC practices, landowners would need to receive [a premium of around 3 to 10 percent](#).

Like the food sector, wood products could host a variety of labels to differentiate the ways wood products meet our values. “Long Rotation-Certified” or “Older Forest-Certified” could be one of them. Long rotations could fill a small niche left vacant by FSC because they are [more profitable for landowners and can store more carbon than FSC-certified timberlands](#), giving them a high carbon-per-dollar value. (This is not to discount the fact that FSC-certified forests are older and [store substantially more carbon](#) than conventional timberlands due to healthy forest practices like greater green tree retention and riparian buffers.)



FSC-certified. Source: Giles Douglas

As far as accomplishing industry-wide transformations, voting with your hammer will suffer from the same [inherent shortcomings as voting with your fork](#): prices (not ethics) will continue to drive wood purchases. Just as a “farm fresh” or “all-natural” label on a carton of eggs [literally means nothing](#), it will be difficult for customers to differentiate “long rotation-certified” wood from wood that’s simply branded as sustainable. And voting with your hammer may diffuse energy from policy changes that require real votes. Nevertheless, it may be an important component in educating voters to support healthy forest policies at the ballot box.

#### 4. Adopt sustainable wood sourcing policies, both public and private

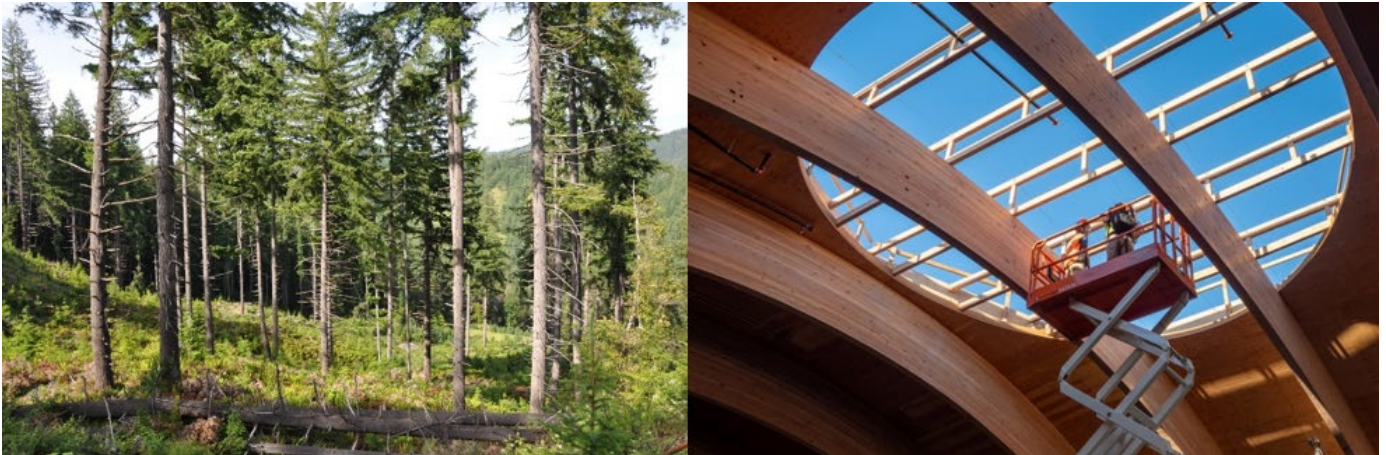
At the airport in Portland, Oregon (PDX), you can witness another strategy to differentiate sustainable wood products and encourage older forests: sustainable wood sourcing. Not only does the airport’s new roof give the feel of [walking through the filtered light of a forest](#), but [its recent remodel](#) also emphasized purchasing Douglas-fir lumber from long-rotation forests. For example, PDX was willing to pay a premium for wood from the Coquille Tribal Forest’s 80- to 100-year rotations.

Sustainable procurement policies set standards for sourcing goods and services that go beyond the typical values of quality, price, and timing. This strategy uses public policies and [private initiatives](#) to move markets.

Emulating farm-to-table but applying it to wood, [the nonprofit Sustainable Northwest managed the sustainable procurement](#) of more than 2.2 million board feet of wood products for the PDX remodel. That’s about 200 homes’ worth of wood. Large projects like this one have the market muscle to build new supply chains and to advance the transparency of existing ones.

On a daily basis, 55,000 people walk through PDX. By investing in such a public and visible project, Portland is also spreading sustainable wood literacy. According to Sustainable Northwest’s Micah Stanovsky, “People don’t recognize that this thing they’re using comes from a forest, and not all forests are the same.” Travelers passing through PDX learn about sustainable forestry from informative signs and from labels naming the

origin of a particular beam or panel. Raising awareness is the first step towards making “voting with your hammer” possible and even towards congressional expansion of the Forest Legacy Program.



The Glulam beams for the wooden roof in PDX’s new terminal were sourced from the FSC-certified Coquille Tribal Forest. Source: USDA, Oregon NRCS (left), PDXNext (right)

With today’s opaque supply chains, the amount of work that goes into sustainable sourcing is astonishing. Aside from FSC-type certifications, today’s supply chains do not differentiate wood products that are produced ecologically, locally, or equitably. To deliver a “sustainable” beam to the customer, a supplier must take unusual efforts to track that wood from the forest and separate out the tracked boards at the mill and possibly a [glulam](#) or window manufacturer as well, and then at the warehouse. Plus, investors, developers, architects, and construction engineers all must learn new skills and adapt their designs to work with the different kinds of products (and delivery schedules) that can be procured sustainably. For example, it’s difficult today to find tight-ringed clear cedar, prized for its resistance to water, rot, and insects, that [didn’t come from logging Canadian or Alaskan old growth](#).

The bureaucratic ring of “procurement policies” may not stir excitement, but even without private initiatives, the reach of local, state, and federal government purchasing is staggering. In the United States, [state and local governments purchase around \\$1.5 trillion in goods and services each year](#), with the [federal government adding an additional \\$665 billion](#). This is more than 10 percent of US GDP. Presidents Clinton, Bush, Obama, and Biden all issued executive orders for various degrees of sustainable procurement at the federal level, and multiple states have green procurement policies. Imagine the market for long rotation-certified wood if all public procurement policies required sustainably grown wood. This 10 percent could be multiplied if procurement policies extended sustainable sourcing requirements to contracting purchasers, such as for housing construction.

So far, though, neither the federal government nor any state has implemented a sustainable wood sourcing policy. But Portland, Oregon, is leading the way. First, it was a national first-mover in sustainable procurement, and [in 2022 it became the first city to explicitly institute a sustainably sourced wood program](#), following the [Sustainable Wood for Cities guidelines](#).



## 5. Discipline the forest carbon market

Extending rotations in western Oregon and Washington offers \$40 billion worth of climate benefits. Is the global public willing to pay for this carbon sequestration? Could carbon offset markets mainstream long rotations?

The Biden Administration puts the social cost of carbon at \$51 per ton of CO<sub>2</sub>e. (Nobel economist Joseph Stiglitz recommends that the price rise to \$100 per ton by 2030.) At 110 tons of additional CO<sub>2</sub>e stored per acre, extending rotations on 8 million acres of industrial timberland gives you \$40 billion.

Unfortunately, as I wrote in a previous article, the carbon market hasn't caught up, and it probably won't. In Oregon and Washington, all of the current offset projects combined store less than one million tons of CO<sub>2</sub>e each year—only about one-tenth of one percent of the additional storage from extending rotations. The carbon market is growing, but will it grow by 1,000 percent?



Source: OR Dept of Forestry

Plus, the market price for carbon is far too low to spur real change in logging practices. To compensate landowners for the full cost of extending rotations (plus a 20 to 40 percent commission to carbon project developers), the price of carbon needs to be around \$58 per ton for a 20-year extension<sup>22</sup> and double that for a 40-year extension. But the market price for carbon has hovered around \$7.47 per ton in the voluntary market and around \$18 to \$30 per ton in California's compliance market. It would take more than a 1,000 percent increase to hit the break-even carbon price needed to attract real change from timber companies.

Fundamentally, carbon market growth is limited by a major free-rider problem. Whether or not we do our part and pay for our own emissions has no bearing on the fate of the climate, but it does bear on our own finances. Unless we are required to pay, as some California industries are, most of us won't ("why should I if nobody else is?").

The carbon market suffers from other problems as well. Offsets do not always add carbon storage that would not have otherwise happened (the "non-additionality" problem). And offset projects often store carbon for only 40 years, not nearly long enough to compensate for the hundreds or thousands of years carbon emissions linger in the atmosphere (the "impermanence" problem).

The carbon market has helped advocates conserve valuable forest acres. But for the task of extending rotations on commercial timberlands, its efficacy is limited.

<sup>22</sup> The actual price varies substantially from forest to forest, depending on species, prices, site productivity, logging difficulty, and haul distance. Accounting for inflation, the estimated break-even price of \$49.87 per credit in 2017 equals \$58.82 per credit in 2022.

## 6. Explore “impact investing” opportunities for long rotations

Conventional timber investment funds make money from selling trees and land that have appreciated in value. As a group, timber investment management organizations (TIMOs) have been vilified for accelerating the contraction in rotation age and generally degrading forest health and community wealth.

But there is a new type of timber investor on the block that is bringing private equity capital into the conservation neighborhood. The mission of forestry “impact investors” is to generate a financial return while measurably restoring forest health.

As a financial asset, timber offers predictable cash flows, “countercyclical” returns that tend not to rise and fall with the market, and a hedge against inflation. Impact investors also hope to capture value from selling non-timber ecological services that are becoming more fully monetized, such as water, habitat, aesthetics, recreation, and carbon values. Along with selling timber and carbon offsets, revenue comes from leasing use rights to hunting and fishing groups, selling non-timber forest products such as forest-foraged berries, and selling conservation easements (often paid for by government and philanthropic grants).

In Cascadia, EFM Investments & Advisory (formerly Ecotrust Forest Management) has been an early innovator in the impact forestry sector. EFM is a for-profit TIMO that is restoring forests and practicing FSC-certified timber production on the roughly 130,000 acres it owns and manages in California, Oregon, and Washington. “Rotation” is one of EFM’s “5Rs™ of climate-smart forestry,” along with retention, reserves, resilience, and relationships, which together result in older forests and double the carbon storage compared with industrially managed forests.



Former SDS Lands, outside Trout Lake, WA now protected under working forest conservation easements and managed by Green Diamond Resource Company. @ianshivephoto / @tandemstock

Also in Cascadia, [The Conservation Fund](#), a nonprofit impact forestry asset manager, recently facilitated [the purchase and permanent conservation of more than 96,000 acres of ecologically valuable lands](#) near the Oregon–Washington border about an hour east of Portland. Regional conservationists were alarmed when the SDS Lumber Company announced the land sale. Without the impact investment capital previously raised from selling more than \$100 million in “green bonds,” an industrial timber company would almost certainly have purchased these highly productive timberlands close to Portland and several growing towns, heavily logged them, and eventually sold them for development.

Part of the deal involved purchasing WFCEs on 61,000 commercial acres managed by Green Diamond Resource Company. Project developers say they likely [will not pursue carbon offset funding](#). Had the market price of carbon been higher, these easements might have additionally specified long-rotation forestry in order to qualify as carbon offsets. As it stands, Green Diamond is free to log on short rotations.

Not all “impact funds” are equally virtuous. Many funds, across sectors, not only yield lower financial returns but also often have [worse than average social and environmental impacts](#). It is hard for investors who are not sustainable forestry experts to distinguish funds that restore forests from those managed by charlatans or by ethical managers who still believe wood is wood.

Ultimately, how much impact investors will have largely depends on the public’s investment. Timber and land are still the main sources of revenue for impact forest investors. To capture income from clean water, wildlife habitat, carbon, or aesthetics, those investors largely rely on the government programs or private philanthropy that many worthy projects covet.

## 7. Pursue carbon storage through re-localizing forest ownership

[One last “buying long rotations” idea](#) is more of a thought experiment at this point, although the agencies and policy infrastructure to implement it are already in place—they have been ready to go since the Dust Bowl.

The Coast Range Association (CRA) took on the challenge of how to achieve an increase in forest carbon storage that responds to the severity of the climate emergency while supporting local economies in forested rural Oregon. The solution hinges on CRA’s (and many others’) analysis that [carbon storage \(and forest management more broadly\) is largely driven by who owns the forests](#). For the majority of investor-owned timber companies, timberland is an “asset” that delivers “return.” The ratio of asset value to return drives the timber enterprise. It turns out that a low-carbon plantation forest delivers the best ratio of asset value to return.

The CRA reasons that state-sponsored market incentives or outright regulation are politically infeasible in Oregon and a carbon transition could harm forestry workers. But buying private industrial timberlands at fair market value could avoid political resistance from the timber sector and redirect cash flow into local economies.

In CRA’s vision, locally owned social benefit enterprises that agree to increase forest carbon through a WFCE would qualify for a mix of federal grants and low- or no-interest loans to buy timberlands. In



Chanterelles harvested near Onion Peak on the northern Oregon coast. Source: EFM.



this way, land ownership would be re-localized in the hands of rural Oregonians, and forests would store more carbon.

In today's political climate, though, CRA's proposal is a long shot. Chuck Willer, CRA's director, admits that "implementing the CRA proposal depends on a national mobilization." But pushing boundaries has always been vital for progress; after all, it was [Einstein's "elevator thought experiment"](#) that freed him from the scientific limitations of the time, leading to his crowning theory of gravity. As Willer noted, "if we had a national mobilization, we should be prepared with a proposal to respond adequately to it."

Even without a national mobilization, CRA's proposal offers some guideposts. It takes as its starting point the full problem to be solved. It takes the unusual step of jointly addressing climate *and* rural economic justice. And it proposes a solution that directly addresses the underlying drivers of the low-carbon private forest: investor-driven forest management.

## The seedlings of long rotation change

The first step to growing long rotations is understanding the roots of the problem: in today's system, timber companies don't have to pay the climate and ecological costs of short rotations. And, as public goods that all can enjoy whether or not we pay, there will never be adequate *voluntary* funding to pay for the benefits of long rotations.

Fixing the short-rotation market failure is both worth it—at roughly a 100 percent return on investment—and possible, if not easy. The first step is raising awareness that some ways of growing trees deliver a lot more value than others (updating the "wood is wood" narrative). Loud grassroots advocacy is important. But so are market tools that connect directly with the public, such as PDX's educational and visible sustainable wood sourcing remodel project or certification labels like FSC or "long rotation-certified."

Ultimately, though, by acting individually in atomistic markets (i.e., voting with their hammers or their carbon dollars), the people who could benefit from long rotations on the roughly eight million acres of private industrial forest in Oregon and Washington simply cannot muster sufficient funds to pay, because these market solutions to the short-rotation market failure suffer their own market failures. Only by joining together and casting votes for elected officials who will invest public dollars in long rotations can we solve the short-rotation market failure.

Luckily, the public programs are already in place to fully pay landowners their cost to delay harvest. What's needed are a few modifications to the federal Forest Legacy Program and the Healthy Forest Reserve Program and a sufficient appropriations bill to scale these programs.

Public dollars would stretch further if they were coupled with tools that directly addressed the negative externalities of short rotations. In a future article, I will explore modifications to the tax code, policy protections, and other tools that require timber companies to shoulder some of the ecological burden of short-rotation forestry—and level the playing field for those that already do.

# Northwest Carbon Markets Can't Support Longer Timber Harvest Rotations

## That would take a New Zealand-style, all-forests cap-and-trade system



A third-party carbon verifier measures tree girth for a Northern California carbon project. Source: California Air Resources Board

July 11, 2022 | By Kate Anderson, PhD

### Take-aways:

- Despite proponents' optimism, carbon markets can finance only a tiny fraction of the climate gains offered by extending timber harvest rotations in Oregon and Washington.
- Short-term carbon projects don't offset emissions that damage the climate for thousands of years. Guaranteeing long rotations in perpetuity through prescriptive working forest conservation easements is a better deal.
- To weed out "ghost credits" that lower the price of carbon and provide no real carbon gain, forest carbon markets need reform.
- A national cap-and-trade program with mandatory forest enrollment, like New Zealand's, could solve the problems of scale, impermanence, and ghost credits.
- Relying on carbon to fund habitat, water quality, and biodiversity is risky.

Nestled in the southwest corner of Washington, home to coho salmon and the occasional spotted owl, the [Winston Creek carbon project](#) is extending rotations on 10,000 acres of forest. By delaying harvest from 40 years to 60 years and letting these trees continue to grow during their carbon sequestration prime, Port Blakely, the forest owner, hopes to [double the biomass of its forest](#).

According to [American Carbon Registry \(ACR\) documents](#), this extension will sequester about 850,000 metric tons of carbon dioxide equivalent (CO<sub>2</sub>e) above and beyond what a 40-year rotation would sequester. One ton of CO<sub>2</sub> is about what a gas-powered car emits on a trip from Klamath Falls, Oregon, to Anchorage, Alaska (about 2,500 miles); therefore, this forest carbon project offsets the emissions from about 850,000 road trips to see moose and hear glaciers crack and rumble.



Port Blakely's Winston Creek carbon project in Lewis County, WA. Source: Port Blakely

As part of its Carbon Balance program, [Puget Sound Energy \(PSE\)](#) [purchased many of these credits](#) on the “voluntary” carbon market. REI, Avocado Mattress, Boeing, Direct Wines, and the City of Eugene are only [few of the other groups](#) to have bought Winston Creek carbon offset credits. The voluntary market includes all transactions outside of the dozen or so global “compliance” markets that result from mandatory government regulations to reduce greenhouse gas emissions, such as [California's cap-and-trade program](#).



An Xcel Energy coal-fired power plant. Source: [Tony Webster](#)

Globally, the entire voluntary carbon market is projected to grow from about [\\$320 million in 2019 to between \\$5 billion and \\$30 billion by 2030](#). Even though only a tiny fraction of carbon market dollars will go to forest projects in the Pacific Northwest,<sup>23</sup> excitement is brewing among conservationists and savvy wood products companies alike.

Tom Tuchmann, who's worked in forest conservation for 30 years and is now president of US Forest Capital, is excited about carbon market growth. “It's the first time that a true market price has been created to incentivize private landowners to invest in conservation at scale,” he said. “Hundreds of millions of dollars are being raised and spent on carbon credit.”

On the ground in Oregon and Washington, carbon offsets have financed innovative forest conservation that protects clean drinking water and salmon habitat as well as jobs for loggers, mills, and mountain bike guides. Native American tribes that have [logged less aggressively](#) have sold offset credits from their carbon-rich forests and used the income to [reacquire ancestral territory](#). But how much of forests' [“natural climate solution”](#) potential can the carbon market actually fund?

This article is part of [a series](#) investigating the potential of long rotations to increase carbon storage and improve forest health in the “wet” forests of western Oregon and Washington. The first article in the series explained [why long rotations store more carbon](#). The second article outlined [the four main hurdles](#)

<sup>23</sup> As direct-air carbon capture and other techniques to permanently remove carbon improve, forest projects will face increasing competition for carbon dollars. Plus, much of the voluntary market growth will go to poorer countries with rich forests, where lower wages and lower costs of business make carbon less expensive.

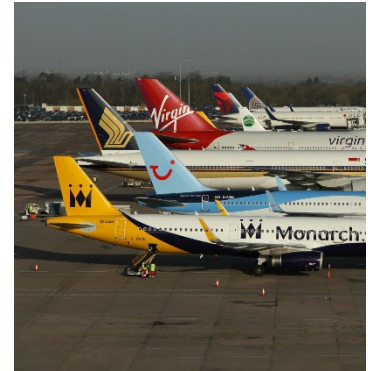


landowners face in extending rotations. This article and the next several ones explore how to overcome these hurdles, starting with market mechanisms to compensate landowners. The goal is a landscape-level shift to long rotations on private timberlands.

By themselves, carbon markets cannot solve our climate problem, and they pose some environmental justice dilemmas. Even New Zealand's full-enrollment Emissions Trading Scheme has shown little progress in decarbonizing that country's economy. But it has been effective at reforestation, extending rotations, and preventing deforestation (if not without some hiccups that I will discuss below).

Could carbon markets help incentivize long-rotation forestry in western Oregon and Washington?

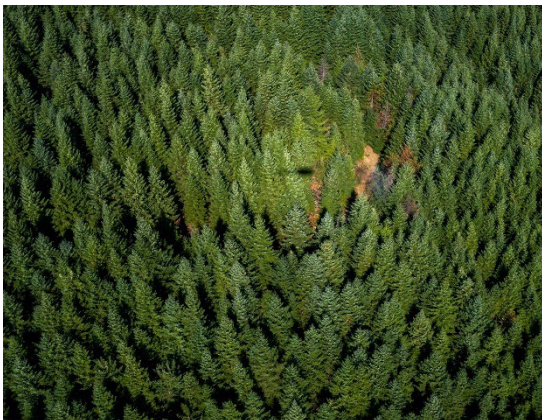
Forest carbon markets show promise. But they have severe limits: insufficient market demand and price, impermanence, and ghost credits (offset credits for carbon that would have been stored in forests even without any carbon market payment). To confront these limits, forest carbon markets need more rigorous standards and oversight. But the best solution to remove these limits may be to include all forests in a mandatory nationwide cap-and-trade program.



Line-up of aircraft at Manchester Airport, UK. Source: Flo Weiss

## The climate potential of forests

To keep warming under 1.5 degrees Celsius, we need net-zero global emissions by 2050. For Oregon and Washington together, net-zero emissions means a reduction of 170 million metric tons of CO<sub>2</sub>e in annual emissions. It's hard to imagine reaching this goal without boosting forest carbon storage. Scientists have pointed to extending forest harvest rotations (long rotations) on private land as the most effective (and cost-effective) land-based carbon sequestration strategy in Oregon and Washington.



Oregon Timberlands. Source: Marcus Kauffman, OR Dept of Forestry

Different kinds of carbon projects have different comparative advantages. Long rotations can store a lot of carbon while also producing a lot of timber. A steady supply of timber supports local economies—not only forest jobs but also those of restaurant owners and teachers, and revenue for county services. Plus, the question of leakage (any increase in logging elsewhere associated with a carbon project's supply reduction) becomes moot because long rotations can beat short rotations on timber volume.

Western Oregon and Washington have more than 12 million acres of privately owned forestland, of which around 8 million acres are owned by large commercial timber companies and likely harvested on short rotations (see Methods section for calculation details). For the productive Douglas-fir forests west of the Cascades, extending rotations from 40 years to 80 years can store roughly an

additional 110 metric tons of CO<sub>2</sub> per acre in an average year (including the carbon in long-lived wood products).

By extending rotations on these 8 million acres, forests could sequester and store about 880 million additional metric tons of CO<sub>2</sub>. That is more than five years' worth of Washington and Oregon's current combined emissions from all sources.

Growing out all the trees at once is not a realistic option. But even a gradual transition would impact the finances of forest landowners. In a previous article, I explained why landowners make more money logging on short financial rotations. Long rotations yield more timber and more value, but delaying harvest means forgoing lucrative investment opportunities in the short term.

## A hard look at the numbers: Carbon finance fizzles at scale

How much of landowners' costs could forest carbon markets pay for?

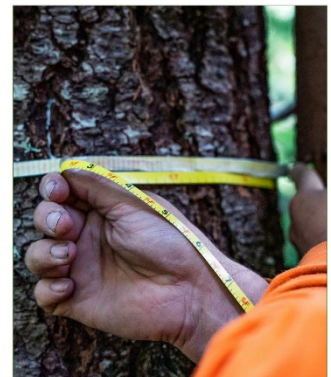
Forest carbon markets suffer from a scale problem. The price of carbon and the intensity of market demand both fall far short of what's needed. The median break-even price of carbon to finance extending rotations by 20 years (including paying the project development costs) is around about \$58 per ton of CO<sub>2</sub>e.<sup>24</sup> To finance a full 40-year extension, from 40 to 80 years, would cost more than double this price (more than \$120 per ton).

What is today's market price for carbon? Recently it has hovered around \$7.47 per ton in the voluntary market (\$9.79 for direct sales), which is not nearly enough to compensate Port Blakely's 20-year rotation extension. The compliance market, which is typically higher, was around \$18 in 2021 and recently jumped to about \$30. To spark real action on long rotations, the voluntary market price needs to grow about twelvefold.

In terms of demand, all up-and-running forest carbon projects in Oregon and Washington currently store around one million tons of CO<sub>2</sub>e per year (see Methods for calculation details), and buyers seem to be snapping up these credits, which is not surprising at today's bargain prices. Many of these carbon project acres are east of the Cascades.

To reach western Oregon and Washington's carbon potential of 880 million tons from long rotations, the current market would need to grow somewhere in the ballpark of 880 times its current size, and a greater share of investment would need to go to long-rotation carbon projects.

Is this growth in price and market demand inconceivable? Not necessarily. Just this past April, Regen Network Development paid between \$34 and \$45 per metric ton (among the highest prices ever paid for forest carbon credits) for 31,000 tons of CO<sub>2</sub>e on the voluntary market. A small share of this carbon is being



Source: OR Dept of Forestry

<sup>24</sup> The actual price varies substantially from forest to forest, depending on species, prices, site productivity, logging difficulty, and haul distance. Accounting for inflation, the estimated break-even price of \$49.87 per credit in 2017 equals \$58.82 per credit in 2022.

stored [in forests around Issaquah, Washington](#), as part of a grassroots effort to save a beloved forest from development. While this unusually high purchase price may partly reflect the buyer's desire for positive brand recognition to boost [its blockchain venture](#), the purchase may be a harbinger of market momentum to come.

If the market price could increase twelvefold to around \$120 per ton, if the market demand increased 100 times to around 100 million tons of CO<sub>2</sub>e stored per year, and if more of the investment went to long rotations on commercial timberlands), then the carbon market could finance somewhere in the ballpark of 12 percent of western Oregon and Washington's carbon potential from long rotations.



Roosevelt Elk. Source: [Linda Tanner](#)

That's a lot of ifs to get to 12 percent, but it's possible. Financing 12 percent means extending rotations on roughly 960,000 acres—a considerable area of cooler streams and better habitat for Roosevelt elk, black bears, and Northern spotted owls.

Unfortunately, [new rules in California](#) mean that future growth will depend on the voluntary market. In the past, California's compliance market purchased the majority of the credits from Oregon and Washington's forest carbon projects. As of 2021, California requires that at least one-half of offset credits be sourced from projects that provide direct environmental benefits in California. Plus, regulated entities can now only offset 4 percent of their emissions (down from 8 percent).

## Impermanence

When United Airlines, Amazon, or Puget Sound Energy (PSE) burns fossil fuels, the carbon emitted [stays in the atmosphere and harms the climate for centuries to millennia](#). If these companies buy forest carbon credits to offset these emissions, that carbon may only get stored in trees for 40 years before it is re-released into the atmosphere. The Winston Creek long rotations carbon project is one example of the emissions–offset time mismatch. After the one-time 20-year rotation extension, nothing prevents Port Blakely from logging the property on short 40-year rotations. Projects like this are essentially renting out carbon storage to emitters. It would be different if the project included a conservation easement guaranteeing long rotations in perpetuity.

In light of this impermanence, for some PSE customers, even today's low carbon offset price seems wasteful. [One customer wrote](#), "I fail to see how much good this will do, if you're only just delaying harvesting the trees by 20 years."

Carbon market proponents believe these customers are missing the point. The income stream from selling carbon can continually incentivize landowners to delay harvest. On the other hand, these PSE customers are pointing out a real problem. To truly "offset" their emissions, PSE would need to continually finance Port Blakely's long rotations for one thousand years.



Airplane contrails. Source: [Creative Commons](#)



Other credits come from projects that will likely store the carbon permanently. For example, when an Issaquah–King County coalition [purchased 15 acres of old forest](#) in western Washington in order to block a planned development that would have logged most of those trees, the carbon became permanently protected, subject only to natural disturbance.

Carbon market standards could be amended to require permanent storage. For example, when [the van Eck Trust donated a working forest conservation easement](#) to the Pacific Forest Trust, it guaranteed increased carbon storage on 9,400 acres of forest in Oregon and California in perpetuity. The van Eck carbon project, covering 2,200 acres of these forests, has sold more than \$2 million in carbon credits [in its first reporting period alone](#).



Source: Marcus Kauffman,  
OR Dept of Forestry

A [working forest conservation easement](#) protects against the deforestation that accompanies development while allowing continued timber production. Some easements further require particular forestry practices, such as [maintaining wide riparian buffers, multi-storied stands, and a minimum amount of older trees \(e.g., greater than 30 inches in diameter\)](#), or long rotations. By guaranteeing older trees, the stock of carbon stored in the forest gets a permanent boost.

Given the immediacy of the climate crisis, there is a strategic tension between attracting the most participation now and securing the most cost-effective and long-term public benefit. The permanence of conservation easements is more expensive up front but more cost-effective in the long run.

## “Ghost credits” haunt our climate’s future

What if the scarce carbon dollars aren’t even buying real carbon sequestration? The forest carbon market has come under intense criticism for essentially selling “ghost” credits that fail the [“additionality”](#) test. Greenhouse gas reductions are only additional if they would not have happened without the prospect of carbon market payment. For example, Laurie Goodrich, director of conservation science at Hawk Mountain Sanctuary, said that even without the carbon payments, [“we’d still be managing the land the same way.”](#) Some projects have even sold [offsets for forests that were already legally protected](#) or, worse, [credits for planting trees that were already growing](#).

The compliance market is typically stricter than the voluntary market, but even with California’s gold-standard oversight, researchers found that nearly one in three credits ([about 8.5 million cars’ worth of emissions](#)) have zero effect on actual forest carbon stores (which the [California Air Resources Board refutes](#)).

If forest carbon projects are to remain competitive against a [growing market](#) in technologies that remove and permanently store carbon, [such as direct-air carbon capture](#), forest carbon markets need more rigorous standards and oversight. Already [some offset buyers are having second thoughts](#) about forest carbon.



Hawk Mountain Sanctuary, Pennsylvania. Source: [Wikimedia](#)

Numerous proposals for [tighter standards](#) and [more oversight of the voluntary carbon market](#) are being debated. [California nearly passed two voluntary market reform bills](#) that together would have mandated uniform standards and “truth in advertising,” and Pacific Forest Trust is collaborating with several US senators on a bill that would create a federal rating system for voluntary carbon offsets. “Just like you have ENERGY STAR when you buy a refrigerator, or a standard EPA mileage rating for a car,” explained Laurie Wayburn, co-founder and president of Pacific Forest Trust.

How effective this new oversight might be is an open question. It’s expensive to verify the carbon condition of a forest and whether this carbon is at risk. In a competitive market, developers, [who take a 20–40 percent cut of the offset sale](#), would still be tempted to [cherry-pick projects and measurements](#) to inflate carbon gains, as would landowners. Registries and [third-party verifiers](#) would still be tempted to cut corners to reduce their oversight and verification costs. Those companies who buy offsets simply to greenwash their brand could still purchase cheaper offsets that don’t carry the contemplated “CARBON STAR” label.

In time, these shortcomings may prove to be no more than bumps along the carbon market’s road to fulfilling its potential. For example, new technology [that uses remote sensing data to measure forest carbon](#) is being developed. This could potentially reduce the burden of oversight by automating verification and monitoring, and it might [help small forest owners participate in the market](#).



Measuring diameter at breast height (DBH). Source: Project Learning Tree

Bettina von Hagen, co-founder of EFM, a forest investment company that [manages its land according to the “5Rs™ of climate-smart forestry,”](#) attests to recent improvements in the forest carbon market. “In the last two years, there’s just been a huge evolution in the quality of standards, pricing, increased rigor,” she said. “I just think it’s a whole new ballgame.”

If you took Econ 101, you might remember that prices go up when supply goes down, as long as demand stays the same. Thus, weeding out ghost credits from the carbon offset supply could potentially raise the market price of carbon high enough to attract meaningful management changes on commercial timberlands. For example, at the right price, Weyerhaeuser might be convinced to grow its trees to 80 years old in a forest it truly had planned to log at 40.

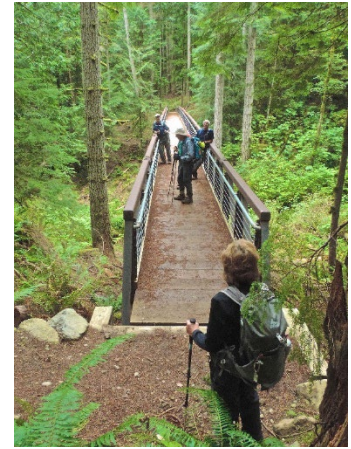
But that’s the forest carbon catch-22. Supporters of forest offsets say that [focusing solely on the carbon math overlooks the incentives offsets create for protecting forests](#).

## Carbon does not guarantee habitat, water, or biodiversity

The fear is that the carbon market will actually do exactly what it is intended to do—but nothing more. In New Zealand, high carbon prices have led to dense plantations of exotic, short-lived tree species (such as radiata pine) that offer poor habitat and that can displace slow-growing native forests.

Restored forests and long rotations that are managed for habitat provide a whole suite of ecosystem services. But the only ones that have a market are carbon and timber, so conservationists have relied on the carbon market to pay for other forest values.

For example, when Save Cougar Mountain, [the Issaquah Alps Trails Club](#), and community members fought to prevent conversion of their beloved forest near Issaquah, Washington, they did it to [prevent habitat fragmentation and to protect the ecological integrity of the forest, streams, and wetlands](#). The resulting land purchase will also result in substantial carbon storage, and the extra funding from selling carbon credits will help pay back the loan and could help fund future land acquisitions. But carbon was not the coalition's main concern. Because the project would have proceeded with or without the carbon offset dollars, the carbon credits Regen Network Development purchased technically correspond with zero additional carbon storage. If market standards are tightened to avoid non-additionality, worthy projects like this one would become ineligible.



Hikers in the Issaquah Alps.  
Source: [Peter Stevens](#)

In fact, a majority of forest offset credits sold in the California compliance market have come from ["conservation" forests and not from "timber" forests](#). While any conservation forest not legally protected (for example, by a conservation easement) could theoretically be logged at any time, and sometimes they are logged, these forests are not meant for harvest and therefore offer limited "additionality."

Clearly, [projects that are essentially fraudulent](#) should be weeded out, but many so-called ghost credits are funding real conservation efforts, such as [King County's Land Conservation Initiative](#). How can the voluntary carbon market be fixed without stranding important conservation efforts?

And is it wrong to pay carbon stewards for doing something the rest of us benefit from, even if they would have done it anyway? As Peter Hayes of Hyla Woods put it, "Do you reward the people who were already doing the good thing? Or do you save your offset dollars to get a 'bad actor' to change their ways? There's a genuine dilemma between the ethical and the strategic."<sup>25</sup>



A coho salmon swims upstream to spawn.  
Source: [Wikimedia](#)

Since a disproportionate number of "good actors" are small forest owners, limiting the forest carbon market to landowners who clear-cut on short rotations would exclude many of them. Small forest owners already struggle to access the carbon market because [project development costs can quickly outweigh carbon revenues](#) on their small acreage. One proposal to reform the voluntary market [would explicitly exclude small projects](#).

If the price of carbon climbed high enough to attract commercial timberlands, the tie between carbon and other forest ecosystem benefits could be severed. For example, instead of growing a portion of its forests to 80 years old, which improves habitat and protects stream flows, Weyerhaeuser could generate the same carbon credits for less cost by extending its rotations by just one year over a larger acreage, which would yield almost no ecological co-benefits.

But is that a bad thing? The residents of planet Earth are relying on the carbon market for one very important purpose: to reduce the concentration of greenhouse gas in the atmosphere. You don't need to be

<sup>25</sup> Disclosure: Peter Hayes is a contributor to Sightline Institute.



a carbon essentialist to ask whether the carbon market shouldn't focus solely on carbon math while other tools protect forest ecosystems.

## Learning from New Zealand

Across the Pacific Ocean, a thriving forest carbon market may offer some lessons for the United States.<sup>26</sup> Since 2008, New Zealand has had the world's only national cap-and-trade program that mandates the participation of forest owners.

The program is complicated, but the basic gist is that forest owners who increase their carbon get paid and those who decrease their carbon have to pay. As long as its carbon price is high enough, the program effectively deters forest conversion, stimulates reforestation, and indirectly incentivizes long rotations. New Zealand's price for a metric ton of carbon has risen steadily since 2013, hitting US\$16.50 in 2021 and more than US\$52.65 in February 2022.

According to Phil Taylor, who manages Washington-based Port Blakely's New Zealand forests, "the higher the price of carbon, the greater the incentive to plant new forests and extend rotations." For example, Port Blakely has made more than \$100 million by extending its rotations in New Zealand, for example from 45 years to 70 years in its Douglas-fir forests.

Port Blakely's Mike Warjone supports a New Zealand-style policy in the United States because he has seen it work. "We make more money selling carbon than trees from New Zealand in some years," he said. Warjone notes the New Zealand program works because everyone has to be in it. Mandatory forest enrollment could help even the playing field for the Pacific Northwest timber industry, which has been losing market share to the US Southeast, in some part due to looser environmental regulations.<sup>27</sup> Warjone emphasizes that "whatever we do here should take account of the yellow pine plantations in the Southeast."



Radiata pine, a popular tree for carbon storage in New Zealand. Source: [North Sullivan Photography](#)

If the United States enacted a national cap-and-trade program with mandatory forest enrollment, it could altogether avoid many shortcomings of the current project-based crediting system: scale, impermanence, ghost credits, and the moral hazards of excluding small forest owners and "good actors." Plus, nearly all the money that currently goes to carbon project developers, third-party verifiers, and registries (often more than 50 percent of offset revenues) would go directly to forest owners.

There are more advantages: The automatic inclusion of small-scale forest owners could dampen the systematic transfer of forestlands from family forests to Timber Investment Management Organizations

<sup>26</sup> Because the commercial forests of British Columbia are largely government-owned, this article does not consider the effectiveness of carbon markets in Canada.

<sup>27</sup> The shift is largely due to an increase in Southeastern timber supply caused by federal policies that have long encouraged Southern farmers to plant trees on marginal agricultural lands, resulting in a surplus of inexpensive pine logs for the region's sawmills.

(TIMOs) and Real Estate Investment Trusts (REITs). And making forest owners pay to deforest would likely reduce the profitability of development, calming land speculation and land prices and reining in sprawl.

Unfortunately, New Zealand's national program has not avoided the forest carbon market's catch-22: the potential decoupling of carbon storage from a holistic suite of forest benefits. In fact, [high carbon prices have incentivized planting exotic species](#) such as radiata pine, whose superpower is [vacuuming carbon two to three times faster than indigenous forests](#). These species come with ecological problems: fire risk, disease, and inferior habitat. They also sacrifice higher long-term carbon storage for short-term carbon gains.

## Improving on New Zealand's model

The world owes many thanks to New Zealanders for 14 years of experimentation and reform. At least four phases of program-wide review have each provided extensive data and analysis and precipitated [substantial changes to their system](#).



New Zealand's native kauri trees are slow-growing behemoths. Source: [Wikimedia](#)

Still, there is room for improvement. A national cap-and-trade system that covers Cascadia could preferentially target land based on its carbon potential. To help [secure forest carbon against increasing disturbance as the climate changes](#), land at lower risk of [fires, disease, and drought](#) could receive higher payments. The same goes for forests identified as [especially promising for natural carbon solutions](#). This includes the [staggering carbon reserves in old growth](#) and other high-carbon forest ecosystems, which [New Zealand is struggling to protect](#).

At the same time, forests that sequester carbon more slowly but offer important co-benefits would need protection. This includes slower growing native species and forests with diverse tree species, multilayered canopies, open flight corridors, and wide stream buffers. When long rotations are narrowly managed for financial returns from timber and carbon, they are planted in dense plantations that largely negate their potential as habitat.

Ultimately, the success of a cap-and-trade system is measured by its progress toward net-zero emissions. Outside of the forestry sector, [New Zealand has not made substantial progress toward decarbonization](#). In its defense, net emissions did not increase as New Zealand's population increased by 18 percent and its GDP increased by 77 percent from 2008 to 2019.

In Cascadia we can learn from New Zealand's diagnosis of this failure and require low and declining emissions caps, policy certainty, sustained high carbon prices, and a closed system that only transacts credits from other entities regulated within the same system.

## Now for the main act

“So, will carbon credits single-handedly take down climate change? Not exactly.” So concedes [Evergreen Carbon](#), an offset portfolio management company brokering credits from more than 800 carbon projects worldwide.

But can carbon markets (voluntary and compliance) play a valuable role as one of many tools to help societies decarbonize? Quite possibly.

Extending forest harvest rotations on private lands in western Oregon and Washington offers the chance to sequester an additional 880 million tons of CO<sub>2</sub>e (more than five years’ worth of the two states’ emissions from all sources). On their current trajectory, carbon markets can finance only a fraction of this potential.

The first generations of carbon markets have been helpful as warm-ups for the main act. They face some big challenges, though: scale, impermanence, ghost credits, and the potential de-coupling of carbon storage from overall forest health. For the forests of the Pacific Northwest, the best solution to those problems is to replace voluntary project-based carbon crediting with a nationwide cap-and-trade program that enrolls all forests. In the United States, this might sound like a pipe dream, but developing a plan now prepares for the day when rising costs from heat waves, hurricanes, and drought push Congress (and the Supreme Court) to act.

At the same time, it’s vital to start looking for other ways to incentivize long rotations and other forest carbon solutions through a combination of market transparency, public financing, and carbon protection policies.

## Methods

### **Acres harvested on short rotations in western Oregon and Washington: 8 million**

To estimate the acreage under short rotations, I subtracted out all small forestland ownerships (fewer than 5,000 acres). Although there are exceptions, large commercial businesses tend to harvest on short rotations while small ownerships are more heterogenous. Western Washington has about 5.5 million private forestland acres, 3.7 million of which are owned by large commercial businesses. Western Oregon has about 7.3 million acres of private forestlands, 4.4 million of which are owned by large commercial companies. The total for both states is 12.7 million acres of private forestlands west of the Cascades, 8.1 million of which are owned by large commercial businesses and thus likely to be harvested on short rotations.

### **Currently active forest offset credits from Washington and Oregon: 1 million per year**

There are currently 20 carbon projects in Oregon and Washington that are registered with the American Carbon Registry, Carbon Action Reserve, Verra Verified Carbon Standard, or City Forest Credits registries, and that have been issued at least some credits. There are additional projects in the pipeline, and there may be some whose application has recently been completed/accepted but are not yet registered and have not been issued credits. While the market experts I checked with believe that these potentially uncounted projects are unlikely to add substantially to the total, to be conservative I adjusted the total for this possibility.

Some of these projects will likely continue “in perpetuity” (for example those covered by a conservation easement), while others may or may not last past the minimum required project length. American Carbon Registry requires carbon sequestration and/or storage for at least 40 years, whereas 100 years is the minimum for California Air Resources Board (CARB)-eligible projects.

To convert different types of projects into comparable units, regardless of their ultimate length, I calculated the amount of carbon each project stores in an average year. For example, the Colville Confederation of Tribes was issued 12,336,210 credits for the first 25-year project period, or 493,448 credits per year. This annual credit value reflects the total amount of CO<sub>2</sub>e stored in a given year due to carbon projects.

Adding up the annual carbon credited from forest offset projects returned a value of 861,000 tons of carbon stored each year in Oregon and Washington. To account for soon-to-be-credited and potentially uncounted projects, I rounded up this annual credit total to 1 million per year.

Because all compliance projects forfeit a proportion of their credits to a buffer pool in case of natural disturbance or intentional reversal by the landowner, I did not subtract out any canceled credits. (Of the Oregon and Washington forest projects registered in the American Carbon Registry, 538,847 credits have been canceled.)



**Kathryn (Kate) Anderson**, senior researcher, Farms & Forests program, leads Sightline’s work on rural lands. Kate has a Ph.D. in Sociology, a Ph.D. in Environment & Resources, and a Masters in Agricultural and Applied Economics. She also has hands-on experience working in lumber mills and on farms. Kate is an expert on institutional tools that jointly promote vibrant rural communities and environmental sustainability. Before joining Sightline, Kate was a researcher and instructor of agroecology, environmental sociology, and natural resource governance at UC-Berkeley and UW-Madison. She has researched climate, biodiversity, water, and land use for the NSF Long-Term Ecological Research program, the United Nations Development Program, and the Brazilian Government. Her most recent work focused on supply management and associational democracy in the farm sector, including policy reform in the organic dairy sector and bringing [fair pricing to the food system](#). Find her latest research [here](#). Email her at kate [at] sightline [dot] org, and follow her on Twitter: [@CollaborKate](#).

**STAFF REPORT**

|                       |                                                                                                                                  |
|-----------------------|----------------------------------------------------------------------------------------------------------------------------------|
| Agenda Item No.:      | 7                                                                                                                                |
| Topic:                | Forest Trust Land Advisory Committee                                                                                             |
| Presentation Title:   | FTLAC Testimony to the Board of Forestry                                                                                         |
| Date of Presentation: | March 8, 2023                                                                                                                    |
| Contact Information:  | David Yamamoto, FTLAC Chair and Tillamook County<br>Commissioner<br>John Sweet, FTLAC Vice-Chair and Coos County<br>Commissioner |

On behalf of the Forest Trust Land Advisory Committee (FTLAC), comments and additional information may be provided on State Forest Lands business.



|                       |                                                                                                                                                                                                                                                                                           |
|-----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Agenda Item No.:      | 8                                                                                                                                                                                                                                                                                         |
| Topic:                | Field Tour Overview: Panel Discussion                                                                                                                                                                                                                                                     |
| Date of Presentation: | March 8, 2023                                                                                                                                                                                                                                                                             |
| Contact Information:  | Ryan Gordon, Planning Branch Director<br>503-945-7393, <a href="mailto:ryan.p.gordon@odf.oregon.gov">ryan.p.gordon@odf.oregon.gov</a><br>Marcus Kauffman, Biomass Resource Specialist<br>541-580-7480, <a href="mailto:marcus.kauffman@odf.oregon.gov">marcus.kauffman@odf.oregon.gov</a> |

## **SUMMARY**

The Board of Forestry will hear from the Oregon Mass Timber Coalition and partners about forest restoration, mass timber manufacturing, and affordable housing in Oregon. This is an informational item with time reserved for questions and discussion. Discussion is intended to provide context for the field tour planned on March 9, 2023.

## **CONTEXT**

The Oregon Mass Timber Coalition is investing \$41.4 million from the US Economic Development Administration's Build Back Better program to create equitable economic development by commercializing modular mass timber housing from sustainable forest management. A planned discussion will address the following topics:

- 1:45—2:45 pm: Overview of the Oregon Mass Timber Coalition
  - Research and Innovation: Iain Macdonald, TDI (UO and OSU)
  - Building Manufacturing Capacity/Workforce Training: Tamara Kennedy, Port of Portland
  - Development Code Updates: Kirstin Greene, DLCD
  - Synergistic Housing Investments: Margaret Van Vliet, Trillium Advisors
- 2:45—3:10 pm: Advancing a Forest Restoration Supply Chain
  - Kyle Sullivan, ODF Federal Forest Restoration
  - Duane Bishop, USDA Forest Service, Willamette NF
- 3:10—3:30 pm: Break
- 3:30—3:45 pm: Track and Trace Program
  - Paul Vanderford, Sustainable Northwest
- 3:45—4:15 pm: Smart Forestry Investments
  - Woody Chung, OSU College of Forestry
  - Lech Muszynski, OSU College of Forestry

## **ATTACHMENTS**

- (1) Guest Speaker Biographies
- (2) Oregon Mass Timber Coalition website, <https://www.masstimbercoalition.org/>

## **Oregon Board of Forestry March 8<sup>th</sup> and 9<sup>th</sup> Speaker Biographies**

### **Marcus Kauffman, ODF—Biomass Resource Specialist**

Marcus Kauffman leads the Department's work on mass timber and wood products market development. He serves as the Biomass Resource Specialist for the Department of Forestry where he provides strategic direction and technical assistance on wood utilization. His position is part of the Department's Planning Branch which was created to better navigate complex issues such as climate change, equity, and statewide wildfire risk reduction. Marcus provides strategic direction, technical assistance, project development resources, and biomass supply information to public and private interests across the state. Previously, he led the Oregon Statewide Wood Energy Team and is the former Chair of the Council of Western State Foresters—Forest Products Committee. He has a keen interest in advancing forest utilization opportunities and deepening its impact on working forests, rural communities, and the forest products industry. He earned a Master's of Community and Regional Planning from the University of Oregon with an emphasis on rural community development.

Marcus is also a lead Public Information Officer (PIO1) with ODF Incident Management Team 1 where he supports the communication, media relations, and community engagement needs of the team's wildfire suppression efforts.

### **Iain Macdonald, TallWood Design Institute—Director**

Iain Macdonald is the founding Director of the TallWood Design Institute, a position he has held since 2016. He has worked in business development, training and research management roles in the forest products industry for 23 years, prior to which he was involved in export marketing of building products to Asia Pacific markets. Macdonald led the Centre for Advanced Wood Processing (CAWP) at University of British Columbia, Canada (UBC) for nine years, during which time he was involved in pioneering efforts by the Province of British Columbia to stimulate and support mass timber industry development. Iain holds degrees in marketing and professional education. He has significant experience globally in the design and delivery of technical and business education to workplace and professional learners, and in creating programs to stimulate innovation, entrepreneurship, and business development. He is a director and past chair of Canada's Wood Manufacturing Council.

### **Tamara Kenney, Port of Portland—Director of Economic Development**

Tamara Kennedy is the Director of Economic Development for the Port of Portland in the Trade and Equitable development division. The Port of Portland's mission is to build shared prosperity for the region through travel, trade, and economic development. Tamara partners with leadership and external partners in the region to attract investment, design workforce pipeline strategies, advance international trade strategy and equitable development initiatives for industry clusters in advanced manufacturing with a particular focus in ClimateTech and mass timber ecosystems.

Tamara serves on the boards of Black United Fund of Oregon, Greater Portland Inc., NW Xcelerator, and is Co-Chair of the board for Transition Projects. She holds an MBA in Nonprofit Management from the University of Portland and a bachelor's degree in Communications from Marylhurst University. She is passionate about aligning human potential with positive community impact. She is co-founder of Portland's My People's Market, an equitable marketplace for entrepreneurs of color in the greater Portland region.

**Kirstin Greene, Department of Land Conservation and Development—Deputy Director**

Kirstin Greene, AICP, is the Deputy Director at Oregon’s Department of Land Conservation and Development (DLCD). Prior to public service, Kirstin was the Managing Partner of Cogan Owens Greene, LLC, a women-owned business specializing in community planning, equitable engagement and sustainable development. While in the private sector, Kirstin led the consulting team responsible for Oregon and SW Washington’s designation as an [Investing in Manufacturing Community Partnership](#) for advanced wood manufacturing in 2014. Her work in community engagement and planning has been recognized nationally by the American Planning Association and International Association of Public Participation Professionals.

**Margaret Van Vliet, Trillium Advisors—Principal**

Margaret Van Vliet is the former director of Oregon Housing and Community Services as well as the former director of the Portland Housing Bureau. A long-time public sector housing leader, she also ran the Sonoma County, California housing authority and redevelopment agency during and after the 2017 North Bay wildfires that destroyed 5,300 homes. In this capacity Van Vliet led development of Sonoma County’s housing recovery strategy and co-created a Joint Powers Authority that facilitates housing finance and development.

Van Vliet formed [Trillium Advisors](#) in 2019, a consultancy focusing on strategy development, organizational improvement, project management, and cross-sector facilitation. Her specialties are housing and homelessness, as well as wildfire recovery. Trillium clients have included the office of Oregon Governor Kate Brown, Tenfold Health, Oregon iSector, the Port of Portland, and a variety of local governments, non-profits, and foundations on the west coast.

**Kyle Sullivan, ODF—Federal Forest Restoration Program Lead**

Kyle Sullivan-Astor is the Federal Forest Restoration (FFR) Program Lead at ODF. FFR’s mission is to increase the pace, scale, and quality of federal forest restoration. The Program works to accelerate forest health and restoration outcomes on federal lands in Oregon. It utilizes the Good Neighbor Authority (GNA) to implement commercial and non-commercial restoration work; performs contracted NEPA planning; and provides financial assistance and staff support to forest collaboratives. Funding comes from a combination of state general funds, congressional appropriations, federal trust funds, and GNA timber sale revenue. Kyle works to prioritize this work for ODF and grow the FFR Program to meet the scale of restoration and landscape resiliency needs across the state.

Prior to his role as FFR Program Lead, Kyle served as a FFR Forester based in ODF’s Springfield office. In his role he managed ODF’s work under GNA on the Willamette National Forest, including preparing and managing the first GNA timber sales completed in Oregon. Prior to ODF, Kyle spent four and a half years working for the Forest Service and Bureau of Land Management in silviculture and vegetation management across the country. Kyle has worked in Regions 6, 9, and 2 for the Forest Service and for BLM’s Coos Bay District. Kyle has a Bachelor of Science in Natural Resources Management from Colorado State University and is a Society of American Foresters Certified Forester®.

**Duane Bishop, Willamette National Forest—Deputy Forest Supervisor**

Duane Bishop has been the Deputy Forest Supervisor since November 2019 and has been on the Willamette National Forest since 2010. Prior to this, he was the District Ranger on the Middle Fork Ranger District. Before coming to the Willamette NF, he worked on the Mt. Hood NF in various roles. Duane has a myriad of experience including watershed restoration; fire and fuels management; youth outreach, education, and engagement; presale, reforestation and tree genetics/timber stand improvement and fisheries habitat biology. He has a Bachelor of Science degree in Forest Management, with a minor in Fisheries and Wildlife from Oregon State University and has completed graduate level coursework in fluvial geomorphology. He is proud third-generation Oregonian working in natural resource management, one of the historical foundations of this state. Mr. Bishop has a wife and two daughters and has recently celebrated the birth of their first grandson.

**Paul Vanderford, Sustainable Northwest—Green Markets Program Director**

Paul builds markets that recognize and value wood products that enable positive conservation, community, and equity outcomes. He has advised, authored, and supported implementation of sustainable wood procurement policies for major firms and building projects. Paul co-creating the Climatesmart Wood Group, provides technical support to over 120 local wood products businesses, supports the sale of over \$50 million dollars of responsibly sourced wood and 300 wood product jobs a year. Paul earned his B.S. degree in Natural Resource Management from the University of Wisconsin, Stevens Point and his M.S. in the Human Dimensions of Natural Resource Management in a partnership between UWSP and Rhodes University in South Africa. Paul is an Eagle Scout and outdoor enthusiast. When not at work, he can be found mucking around Oregon with his family, in the woods hunting, and chasing fish.

**Woodam Chung, Dept. of Wood Science & Engineering, Oregon State University—Professor**

Woody Chung is Professor of Forest Operations in the Department of Forest Engineering, Resources and Management at Oregon State University (OSU) where he teaches and conducts research in forest operations planning and management. He is a native of South Korea and has worked in South Korea, Indonesia, and the US. He currently serves as the Forest Operations Engineering and Management Division Chair of the International Union of Forest Research Organizations (IUFRO), the largest global network for forest science cooperation.

**Lech Muszyński, Dept. of Wood Science & Engineering, Oregon State University—Professor**

Lech Muszyński is a Professor in the Department of Wood Science and Engineering at the Oregon State University. A native of Poland, he received his M.S. in Wood Technology and Ph.D. in Forestry and Wood Technology from the University of Life Sciences in Poznań, Poland. In 1998-2004 he worked in the Advanced Engineered Wood Composites Center at the University of Maine, before joining OSU in 2004. His research areas include mechanical performance of solid wood, engineered wood-based composites, with stress on interface performance, bonding, durability, fire resistance, damage assessment, and hygro-mechanical behavior. Since 2010 one of the focus areas of his research has been cross laminated timber (CLT) technology and other mass-timber panel (MTP) products. Lech has toured MTP manufacturing plants, construction sites, MTP-focused research centers, and related businesses across the globe tracking the complex supply and value chains of the industry and its fascinating evolution.

**T. Tyler Freres, Freres Lumber—Vice President of Sales**

Tyler Freres is the Vice President of Sales for Freres Lumber Co., Inc. He has worked directly in plywood manufacturing since 2004. Tyler is responsible for selling and sourcing all veneer for Freres veneer and plywood operations. As an executive team member, he takes an active role in determining the long-term direction of the company.

Tyler attended Southern Methodist University (SMU), in Dallas, Texas, where he earned a B.A. in English Literature and a B.B.A. in Business Administration with Finance minor. After graduation from SMU, Tyler attended Oregon State University College of Forestry.

In 2016, Tyler conceived of and the company later created Freres' Mass Plywood Panel (MPP). Tyler's passion for the future of veneer is evident. "I believe that the veneer and panel industry have the greatest potential of transforming and producing innovative wood products to create the greatest structures at the lowest cost with the least environmental impact."

**Board Closing Comments and Meeting Wrap Up**





## Oregon Board of Forestry – Public Field Tour

Thursday, March 9, 2023

The Board of Forestry is meeting in Corvallis, Oregon on the campus of Oregon State University on March 8<sup>th</sup> for a regular business meeting and on March 9<sup>th</sup> for a public field tour. An agenda for the March 8<sup>th</sup> business meeting is available on the Board’s meetings webpage and can be viewed on the Oregon Department of Forestry’s (ODF) YouTube channel, <https://www.youtube.com/c/oregondepartmentofforestry>. The following agenda is for the March 9, 2023, public field tour.

**8:30 a.m. – 3 p.m. The theme of the public field tour is *Innovation from Forest to Frame*.** The tour will include two stops 1) TallWood Design Institute’s A.A. “Red” Emmerson Advanced Wood Products Laboratory and 2) Freres Engineered Wood facility in Lyons, Oregon. The discussion will focus on a series of integrated investments to realize a modular mass timber housing supply chain in Oregon. Each tour stop will include several stations, informal presentations from faculty and business representatives, and an opportunity for Board members to engage with the presenters. Upon conclusion of the tour, the Board will discuss key takeaways.

There will be no online option for participation, but audio from each tour stop will be posted on the department’s meeting webpage following the tour, <https://www.oregon.gov/odf/board/Pages/bofmeetings.aspx>.

### **Field Tour Itinerary**

- 8:30 Meet at the Oregon State University (OSU), Peavy Forest Science Center, in the main Atrium
- 8:35 – 9:00 Welcome by State Forester Cal Mukumoto, Marcus Kauffman, ODF Biomass Resource Specialist, and Tom DeLuca, OSU Dean of College of Forestry. Vehicle and tour group assignments confirmed.
- 9:00 – 9:05 Groups divided and assigned walking tour guides.
- 9:05 – 10:00 **Tour Stop One: A.A. Red Emmerson Advanced Wood Products Laboratory and TallWood Design Institute (TDI)**  
The discussion will focus on research, testing, and innovation in mass timber.  
  
Speakers: Iain Macdonald, Director of TDI, Mark Fretz, Director of Institute for Health in the Built Environment and University of Oregon Architecture, Evan Schmidt, Outreach and Education Manager of TDI, Phil Mann, Technical Manager of TDI, Byrne Miyamoto, Structural Testing Coordinator at TDI, and Ben Kaiser, Principle and Owner at Kaiser + Path
- 10:00 – 10:05 Load vehicles with tour drivers and passengers – depart from tour stop 1.
- 10:05 – 11:30 Transit time to Tour Stop Two
- 11:30 – 12:45 **Tour Stop Two: Freres Engineered Wood Facility**  
The discussion will highlight Mass plywood manufacturing from sustainable forests to low-carbon buildings.  
  
Speakers: Tyler Freres, Vice-President of Freres Engineered Wood
- 12:45 – 1:00 Lunch onsite, load vehicles with tour drivers and passengers – depart from tour stop 2.
- 1:00 – 2:15 Transit time for the return trip to the OSU campus in Corvallis

2:15 – 3:00

**Tour Closeout: TallWood Design Institute Foyer**

Board offers closing comments and coffee service is provided.

**Public Participation at Field Tour**

- Please dress and prepare appropriately for local weather and a moderate amount of walking over uneven terrain. Close-toed shoes are recommended, and earplugs will be provided at the mill upon request.
- There will be no online option for participation, but audio from each tour stop will be posted to the ODF [Board meeting webpage](#) following the tour.
- Members of the public wishing to join the tour must provide their own lunch and water.
- If you require special accommodations for the tour, contact the Board Administrator at [hilary.olivos-rood@odf.oregon.gov](mailto:hilary.olivos-rood@odf.oregon.gov), at least 72 hours prior to the event date.
- The scheduled tour times listed on the itinerary are approximate. Oregon Department of Forestry has the discretion to modify the tour presenters, stop locations, or timing if unforeseen circumstances occur.
- Individuals confirmed to attend the tour must sign a ride-along waiver before a seat assignment is provided. In an effort to limit the number of vehicles traveling on forest roads, participants are asked to consider riding in the vehicles provided by ODF.
- In case of an emergency, please dial 911.

The Department and Board will remain in compliance with safety guidelines or measures as it relates to COVID-19, locally ([co.benton.or.us](http://co.benton.or.us)), statewide ([OHA.gov](http://OHA.gov)), and nationally ([CDC.gov](http://CDC.gov)).

**Stop 1)**

A.A. “Red” Emmerson Advanced Wood Products Laboratory  
3205 SW Washington Way, Corvallis, OR 97331

Parking permit is required to park at OSU campus. **To purchase an all-day pass online**, visit link [https://aims.parking.oregonstate.edu/permits/?cmd=new\\_non\\_auth](https://aims.parking.oregonstate.edu/permits/?cmd=new_non_auth)

**Stop 2)**

Freres Lumber Co., Inc.--Mass Plywood Facility  
40519 S Cedar Mill Rd, Lyons, OR 97358

**Stop 3)**

A.A. “Red” Emmerson Advanced Wood Products Laboratory  
3205 SW Washington Way, Corvallis, OR 97331

