

# OREGON FOREST RESOURCES INSTITUTE

Jim Paul  
Executive Director  
January 3, 2024



Oregon Forest  
Resources Institute

# What is the Oregon Forest Resources Institute?

Created by the Oregon Legislature in 1991:

ORS 526.605:

The State of Oregon recognizes that the forest products industry is one of the largest industries in the state. It provides monetary returns to labor, forestland owners, mill owners and operators, public timber purchasers, timber harvesters, investors and others. It is a source of local and state taxes. It is a major supporter of many secondary businesses that supply goods and services in our communities. The welfare of the state is therefore largely dependent on the health and vigor of the forest products industry. **The Oregon Forest Resources Institute's objectives support this important industry and the wise stewardship of natural resources for the benefit of Oregonians.** [emphasis added]



# What is the Oregon Forest Resources Institute?

General Authority (ORS 526.640):

1. increase public understanding of forestry and its public benefits
2. support education within the forestry sector
3. conduct research and help facilitate continued improvement in wood utilization
4. provide publications and other materials relating to **the Institute's work**



Oregon Forest  
Resources Institute

# What is the Oregon Forest Resources Institute?

## MISSION:

OFRI supports the forest sector and the stewardship of natural **resources by advancing Oregonians' understanding of the** social, environmental and economic benefits of our forests.

## VISION:

**Oregon's forests and forest sector are healthy, sustainable, and thriving.**

## VALUES:

Perseverance      Creativity      Integrity  
Collaboration      Accountability



Oregon Forest  
Resources Institute



VISION 	MISSION 	VALUES 	REPUTATION 
Oregon's forests and forest sector are healthy, sustainable and thriving.	The Oregon Forest Resources Institute (OFRI) supports the forest sector and the stewardship of natural resources by advancing Oregonians' understanding of the social, environmental and economic benefits of our forests.	<ul style="list-style-type: none"> <li>• <b>perseverance</b></li> <li>• <b>creativity</b></li> <li>• <b>integrity</b></li> <li>• <b>collaboration</b></li> <li>• <b>accountability</b></li> </ul>	Oregonians depend on OFRI as a credible source of quality information and education about the complexity of managing and sustaining Oregon's forests for all the benefits they provide.

PRIORITIES 	MEASURES 	ACTIONS 
<b>Strengthen OFRI's reputation</b>	<ul style="list-style-type: none"> <li>• Increase number of joint/co-invested projects with partners</li> <li>• Increase number of forums and conferences that OFRI participates in</li> </ul>	<ul style="list-style-type: none"> <li>• Strengthen outreach and engagement with partners</li> <li>• Integrate more partners in our work</li> <li>• Increase OFRI's visibility</li> </ul>
<b>Better reach currently less-engaged audiences</b>	<ul style="list-style-type: none"> <li>• Increase number of partnerships/sponsorships with those we haven't partnered with previously</li> <li>• Increase K-12 and landowner first-time program participants over fiscal year 2024-2025 baseline</li> </ul>	<ul style="list-style-type: none"> <li>• Expand partnerships</li> <li>• Broaden the impact of our communications</li> <li>• Promote existing OFRI programs to increase participation</li> </ul>
<b>Enhance effectiveness of external communications</b>	<ul style="list-style-type: none"> <li>• Increase number of monthly visitors, engagement and inquiries with OFRI's websites</li> <li>• Increase number of digital and social media views, followers and engagement</li> </ul>	<ul style="list-style-type: none"> <li>• Take an overall look at OFRI's public education strategy and re-tool where needed</li> <li>• Increase/diversify OFRI-generated digital media</li> <li>• Seek new opportunities to involve contractors and partners in external communications</li> </ul>
<b>Support forest sector workforce development</b>	<ul style="list-style-type: none"> <li>• Facilitate development of recommendations for how Oregon can move forward in a comprehensive way on forest sector workforce development</li> </ul>	<ul style="list-style-type: none"> <li>• Convene and collaborate with a broad group of relevant state leaders on a coordinated effort to strengthen forest sector workforce development in Oregon</li> <li>• Continuously monitor and refresh OFRI forest career/professional development education programs and workshops</li> </ul>

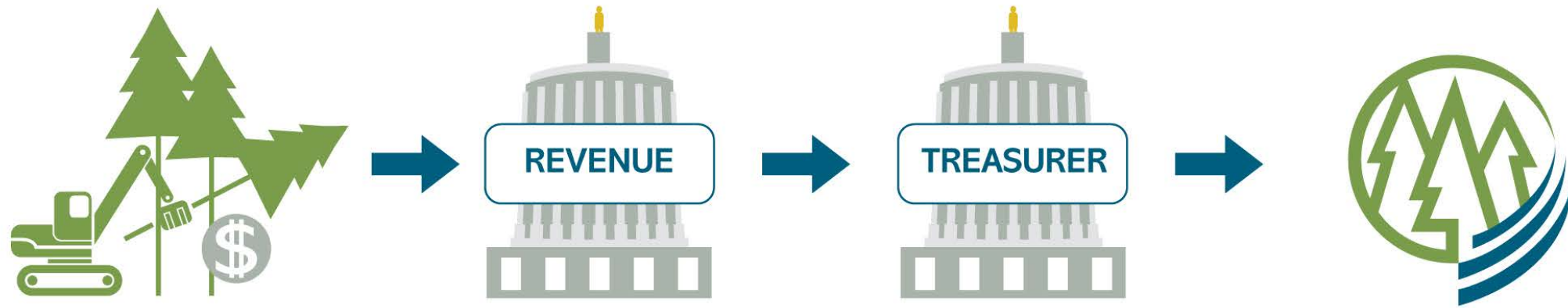
# Agency Structure and Budget

- **OFRI's three primary programs provide educational materials and programming for the general public, K-12 teachers and students, and forestland owners.**
- **OFRI's is funded by a dedicated portion of the forest products harvest tax. Currently that portion is \$1.12 per thousand board feet.**
- OFRI receives no general fund money.
- Operate on an annual budget approved by the OFRI board of directors, certified by the State Forester.





# Funded by the Forest Products Harvest Tax



Overall forest products harvest taxes are distributed between:

- ODF
- Oregon State University
- Oregon Forestland Protection Fund
- Oregon Forest Resources Institute

# OFRI budget

FISCAL YEAR	OFRI REVENUE	HARVEST LEVEL
2017-18	\$3.94 million	3.85 bbf
2018-19	\$4.03 million	3.83 bbf
2019-20	\$3.89 million	3.53 bbf
2020-21	\$3.60 million	3.19 bbf
2021-22	\$4.17 million	3.72 bbf
2022-23	\$4.40 million	3.93 bbf

The Institute's annual revenue has historically been between \$3.6 and \$4.4 million, depending on timber harvest levels.



# OFRI's board of directors

- A 13-member volunteer board of directors governs OFRI
- Nine members represent small, medium and large producers (State Forester appointed)
- Two members represent small woodland owners and industry employees (State Forester appointed)
- Two non-voting members include a public representative and the dean of the OSU College of Forestry
- An Oregon Department of Forestry liaison assists the board

# Dedicated staff

- nine staff members plus a student intern
- 120+ years of experience in **Oregon's forest** sector
- rely on strength in partnerships





# OFRI educational programs

- public education
- K-12 education
- landowner education

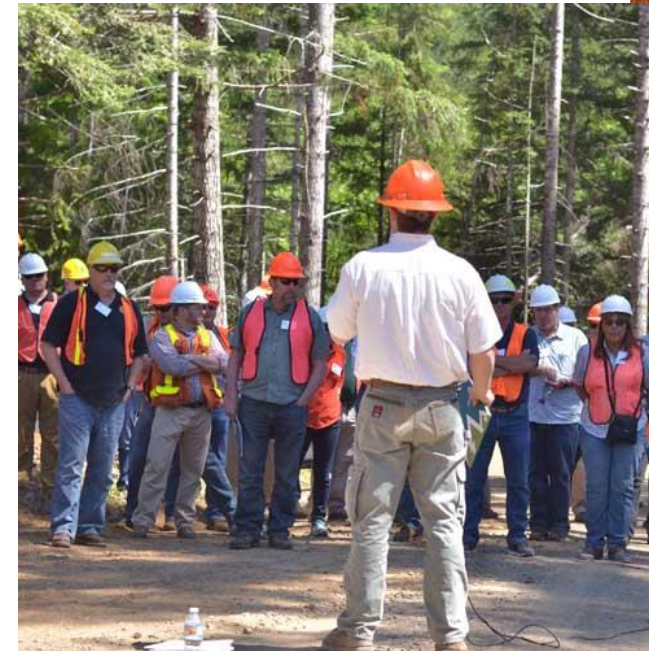
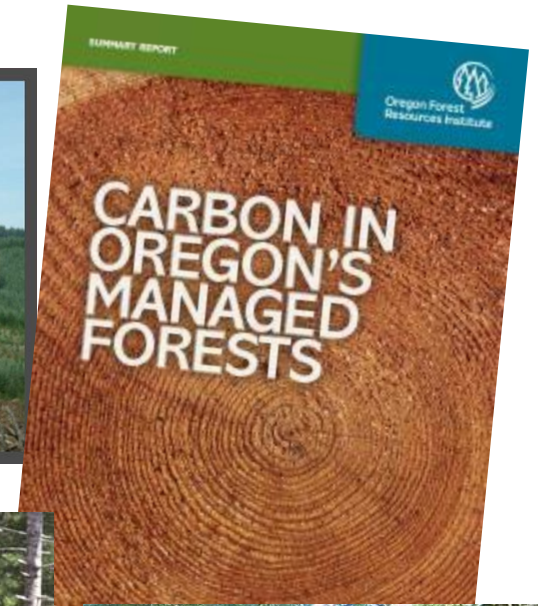


# Public education

- special reports
- educational advertising
- web resources
- public tours
- interpretive signage
- public awareness research

## TOPICS INCLUDE:

- CARBON IN FORESTRY
- DRINKING WATER
- FIRE
- FOREST ECONOMICS
- MASS TIMBER
- FOREST PRACTICE LAWS
- HARVEST METHODS
- FOREST HEALTH THREATS





# Educational advertising

- consistent, statewide exposure
- long-term focus on the basics of sustainable forest management
- broadcast, radio, digital and other





# Oregon Forest Facts & Figures

Updated numerical data and statistics from the forest sector

- forest ownership data
  - timber harvest levels
  - employment numbers
  - economic contributions
- 
- Each edition also features a current forest issue and any new developments in Oregon laws and regulations
  - OFRI is the only entity currently compiling this comprehensive forest sector data in Oregon



# Digital and social outreach

As the general public is harder to reach, digital content will be increasingly important to help communicate the basics of forest management and sustainability.

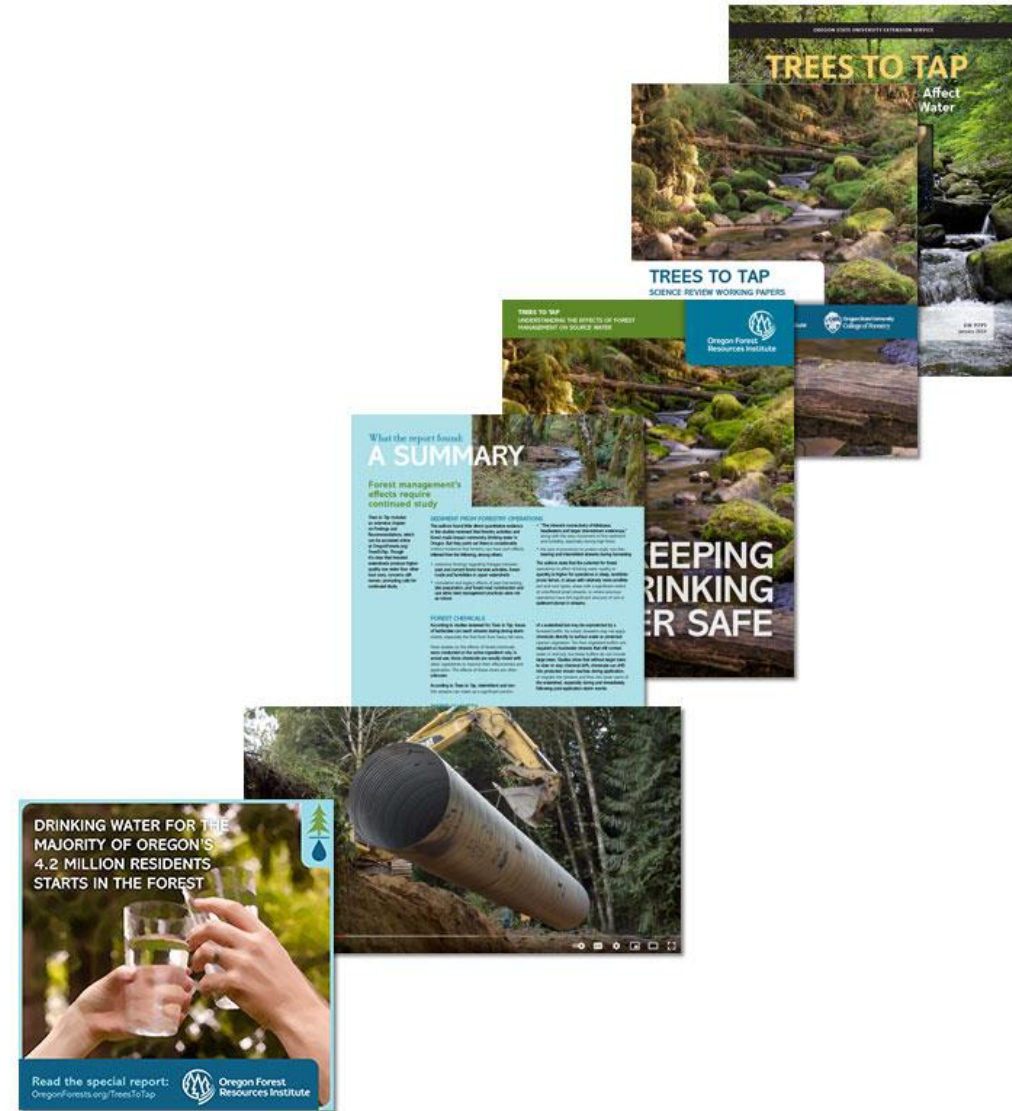
- YouTube channel: 160+ videos available
- 4 public education websites
- 5 social media platforms
- blogs, newsletters





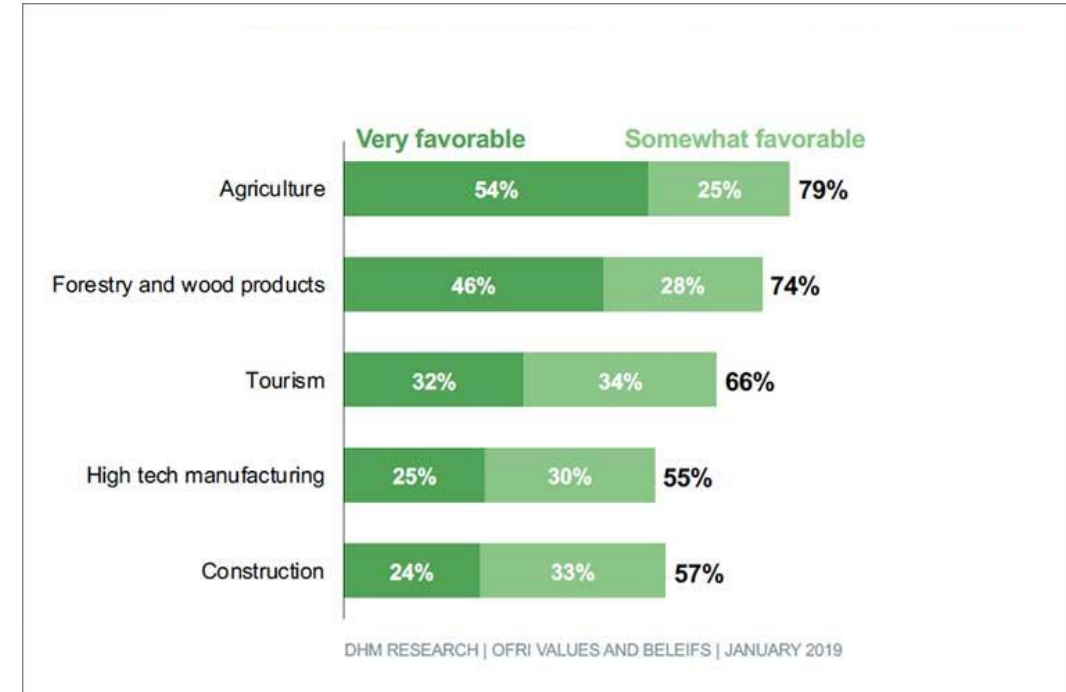
# A ladder of complexity

- scientific synthesis of research
- full scientific report
- special report
- fact sheets
- video support
- social media highlights



# Public research

- 25+ years of ongoing research
- Values and Beliefs research every 4-5 years
- ad messaging research every 2 years
- post-ad campaign research every year
- Recent special topic research:
  - Mass Timber
  - Carbon



*In the past 25 years, OFRI has conducted more than 50 public awareness and opinion projects.*



# OFRI Values & Beliefs

January 2019

**Michelle Neiss**  
mneiss@dhmresearch.com

[www.dhmresearch.com](http://www.dhmresearch.com)



## Research Purpose

- Gauge values and beliefs related to forests
- Assess opinions about forest management
- Benchmark attitudes across time



## Methodology

- Online survey of N=800 Oregon residents
- Conducted January 14–25, 2019; 13 minutes to complete
- Quotas and weighting to age, gender, area of state, and education help ensure results are representative of the population
- Margin of error  $\pm 3.5\%$
- Due to rounding, some totals may differ by  $\pm 1$  from the sum of separate responses.

# Oregonians recognize forestry as a top industry in their part of their state

**21%** **Forestry and wood products**

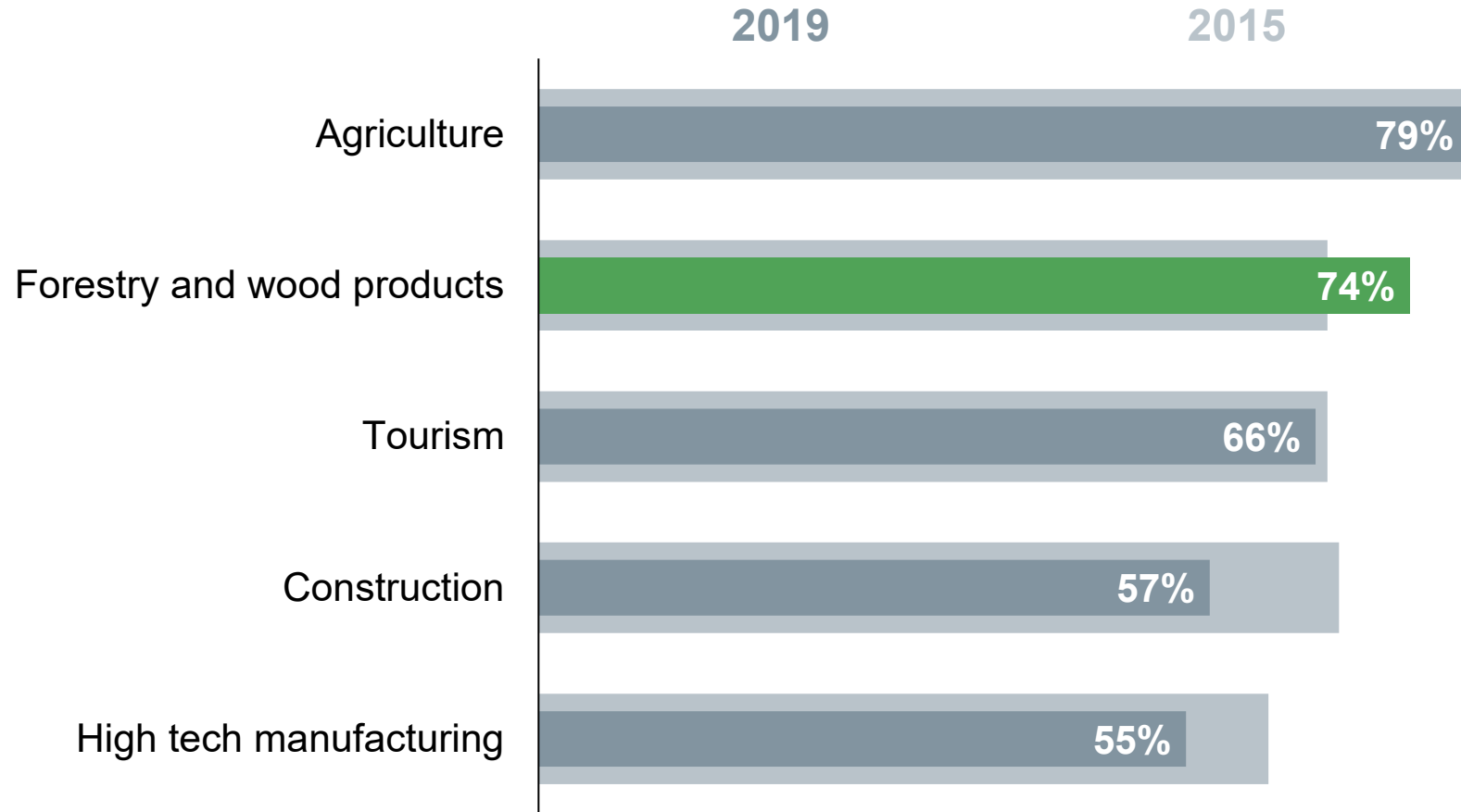
**15%** **Agriculture**

**12%** **High tech**

**9%** **Healthcare**

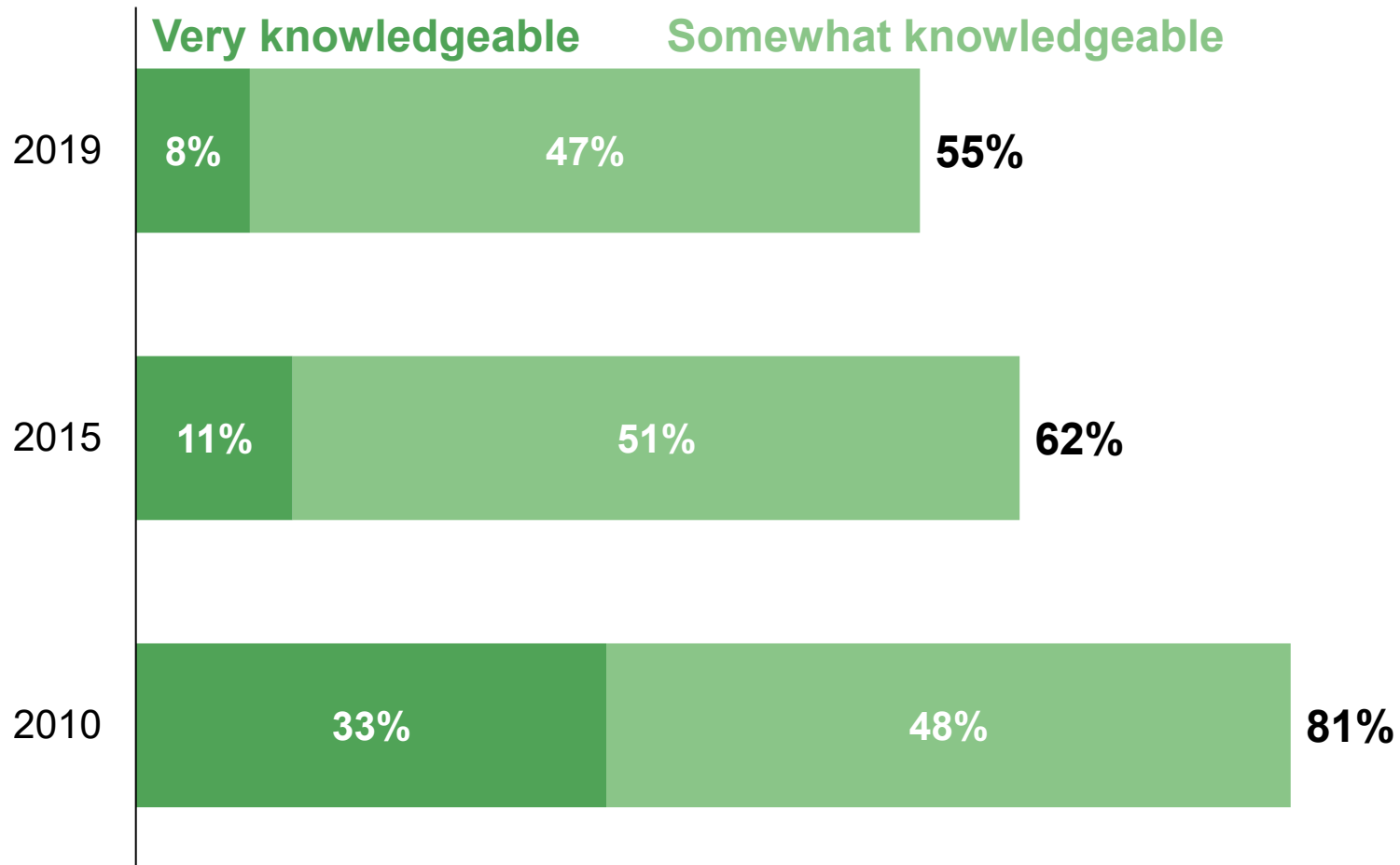
**8%** **Tourism**

# Favorable views of forestry have risen a few points since 2015

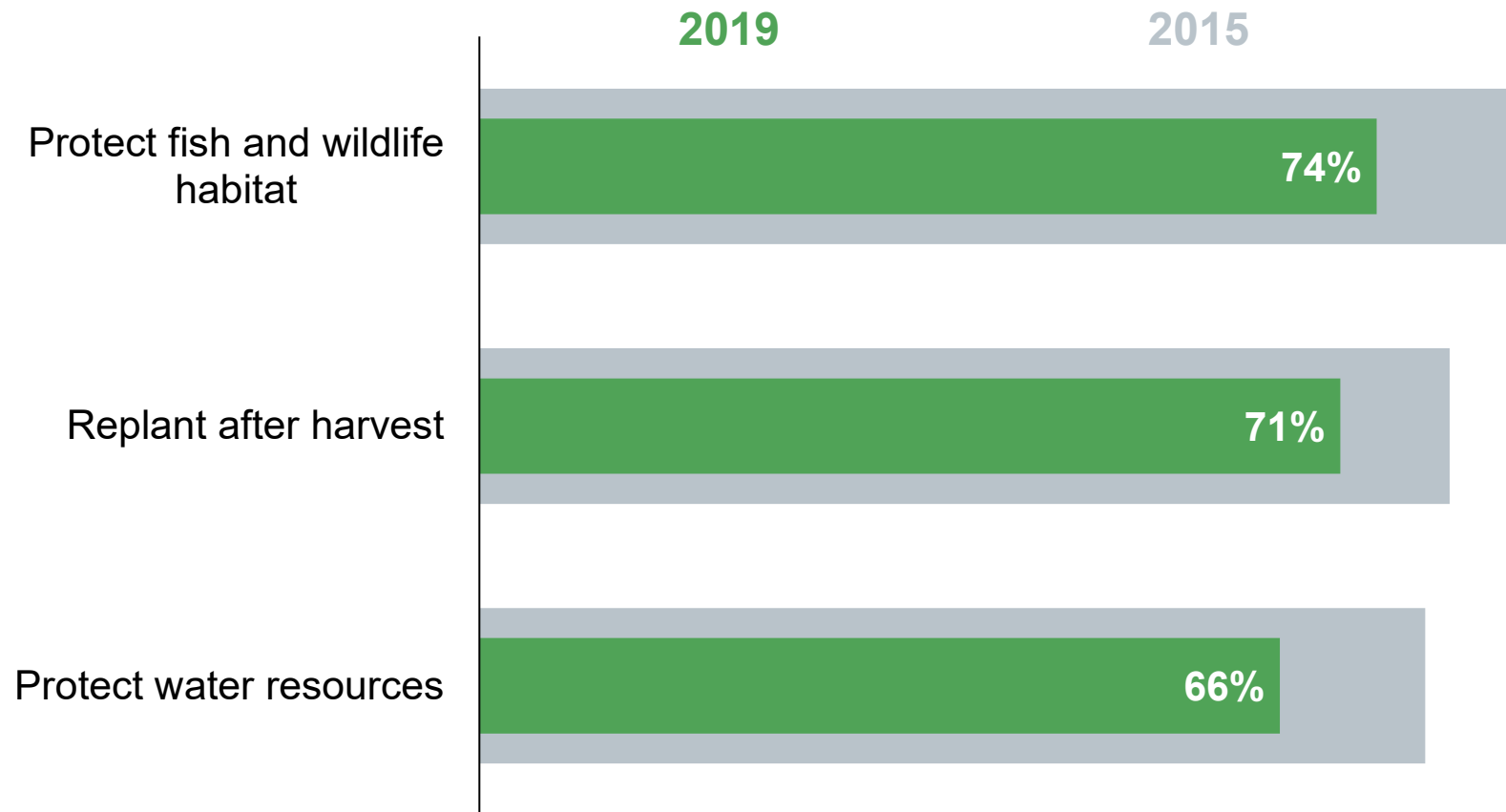




# Knowledge about the forestry and wood products industry has decreased over time

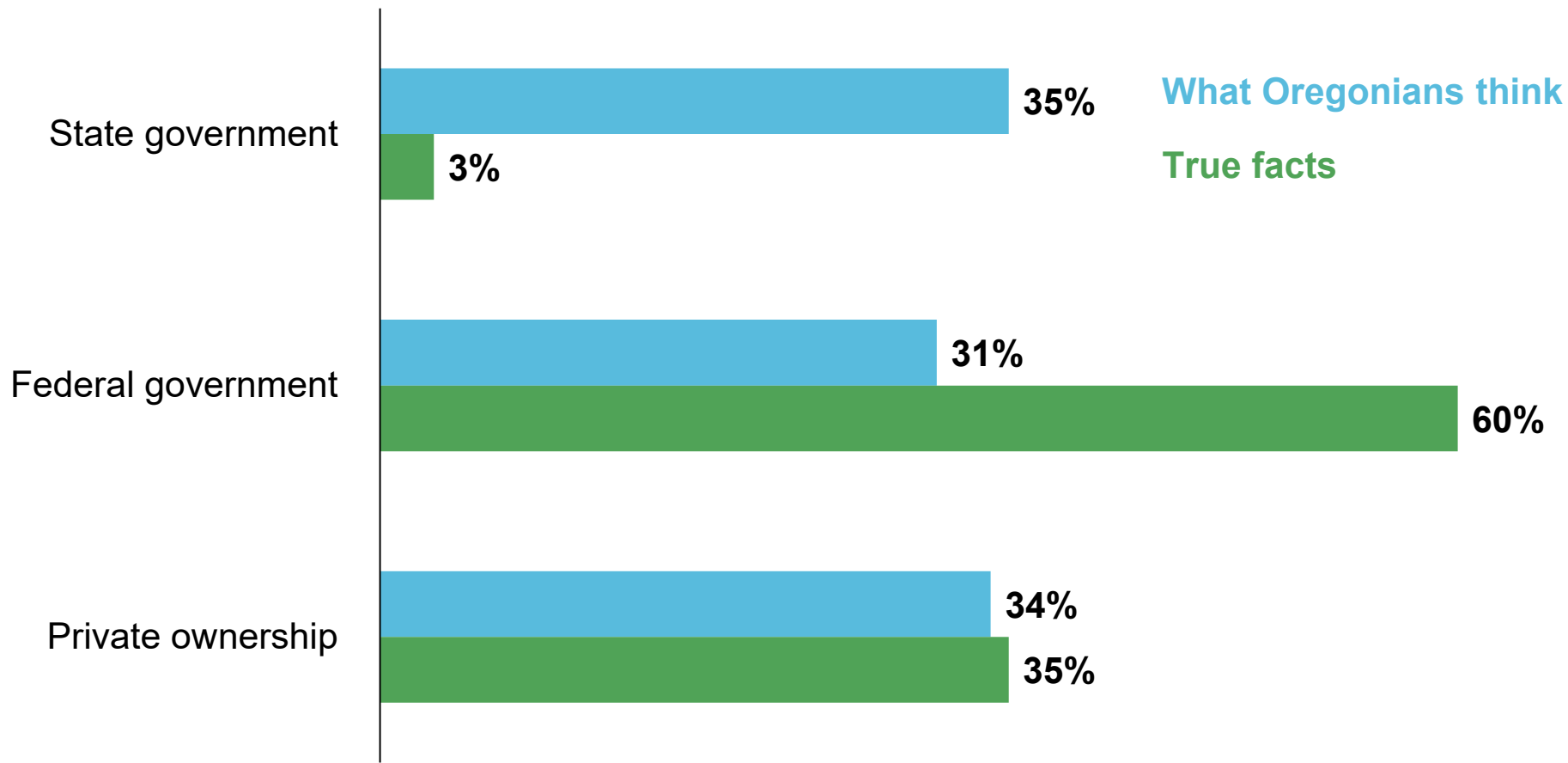


# Over seven in ten are aware that Oregon law requires protections for wildlife habitat and replanting

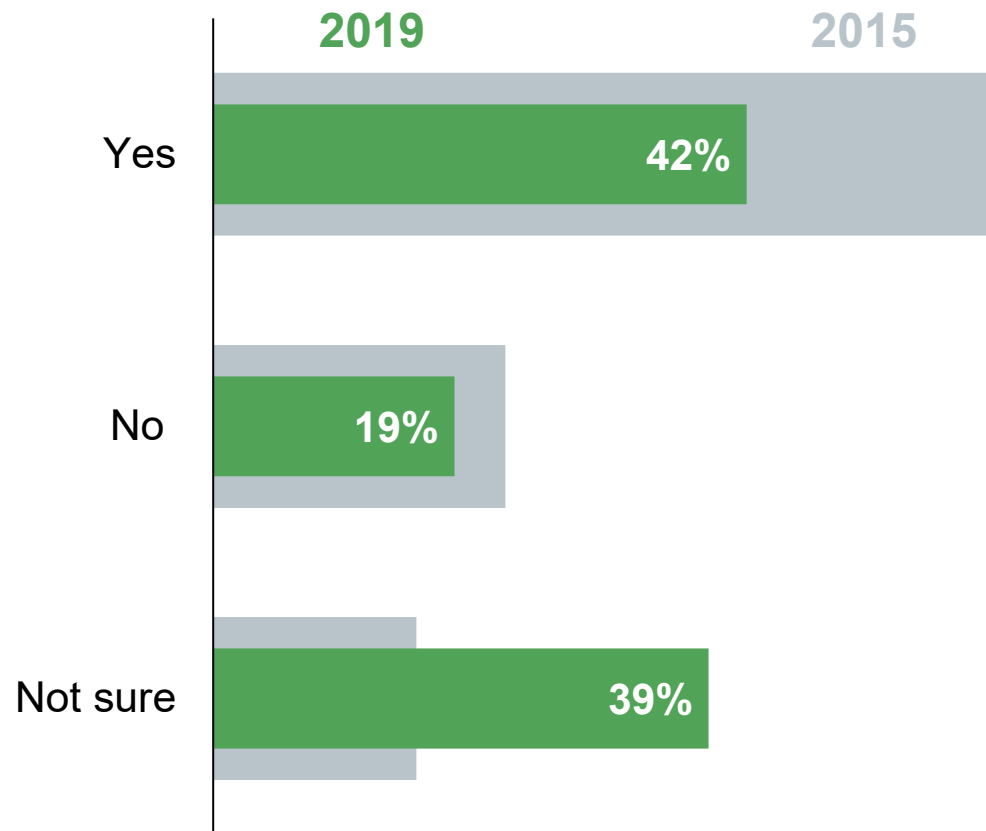




# Oregonians believe that around 30% of Oregon's forests are managed by either the federal government or state government



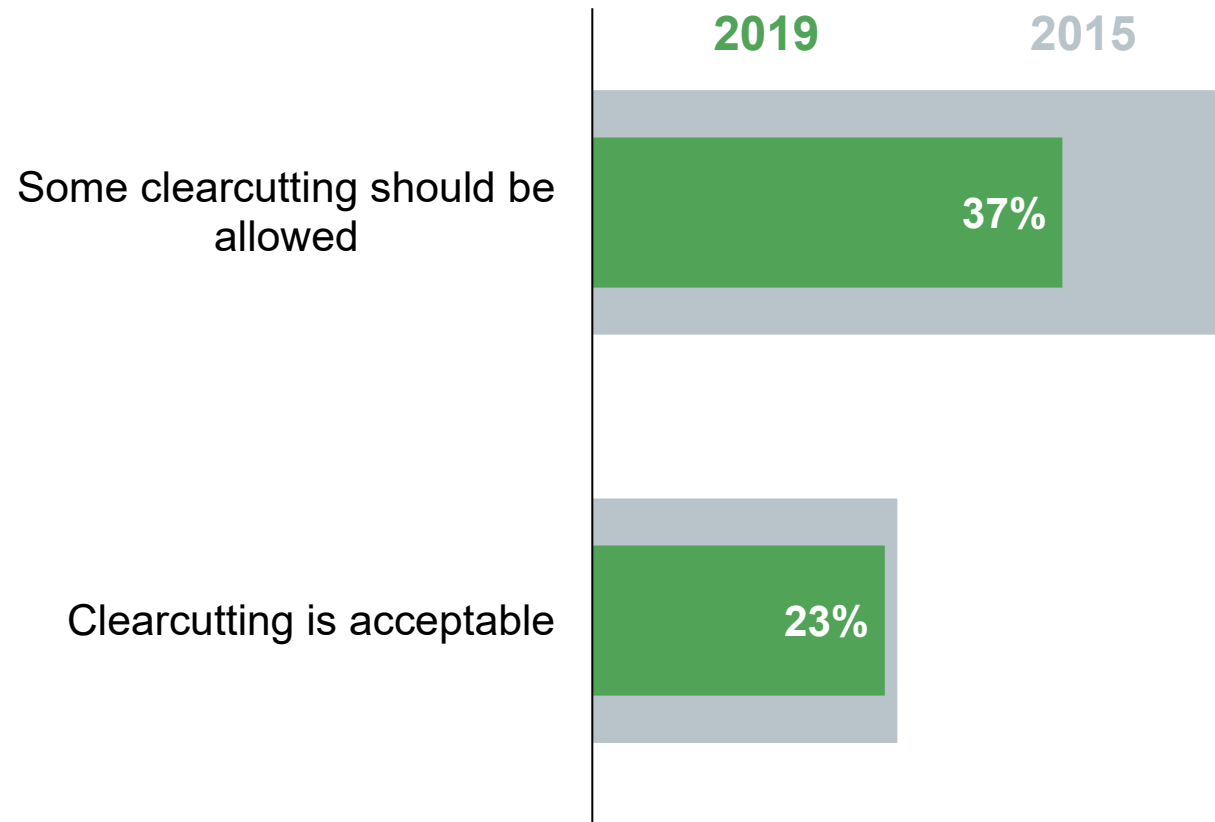
# Fewer Oregonians believe current regulations are strong enough to meet their concerns about management of private forestland; they are increasingly unsure



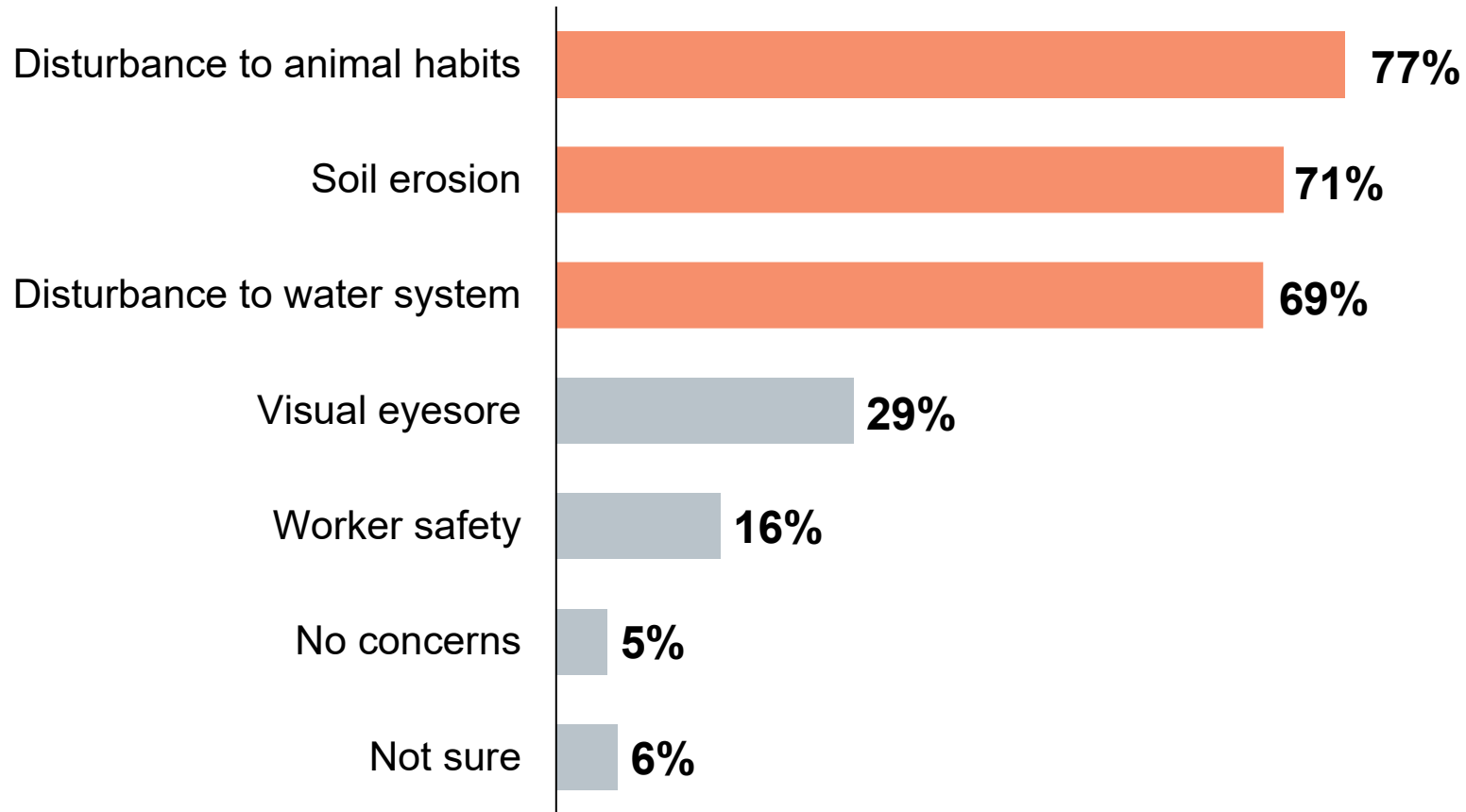
**51%**  
Aware of all three regulatory laws



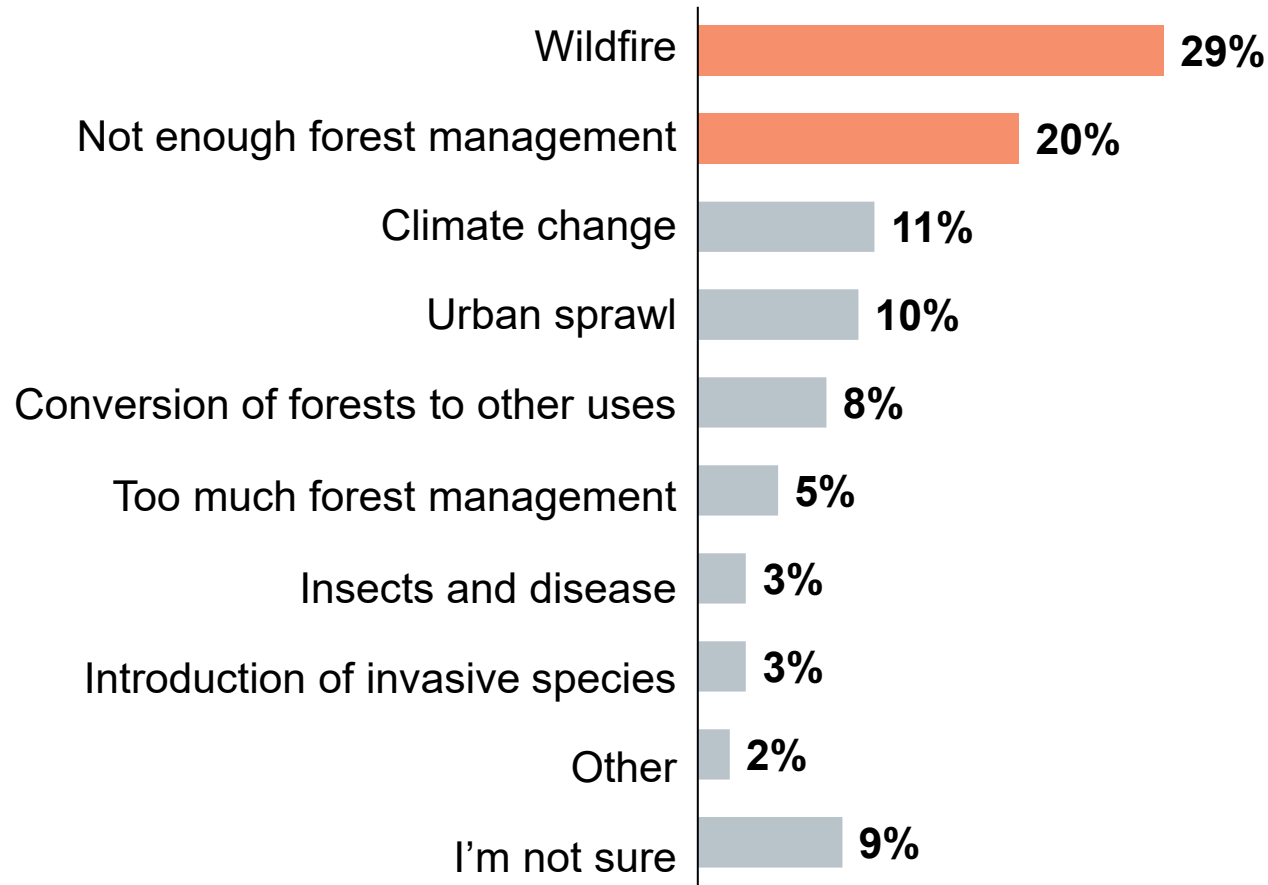
# Compared to 2015, fewer Oregonians believe that some clearcutting should be allowed on private forestland—although overall acceptability has not changed



# Top concerns with clearcutting are disturbance to animal habitats, soil erosion, and disturbance to water systems

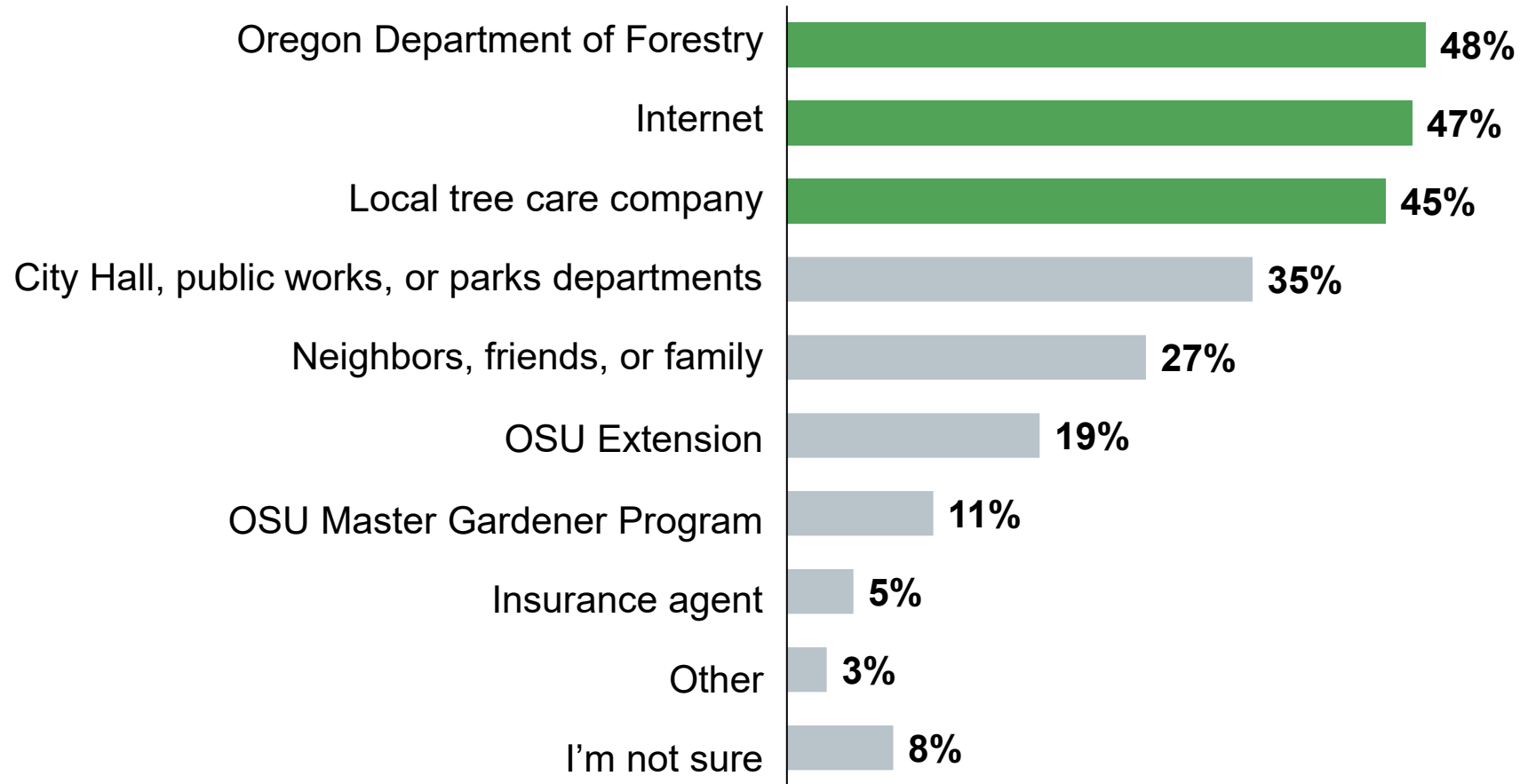


# Oregonians see wildfire and lack of forest management as the biggest threat to Oregon's forests

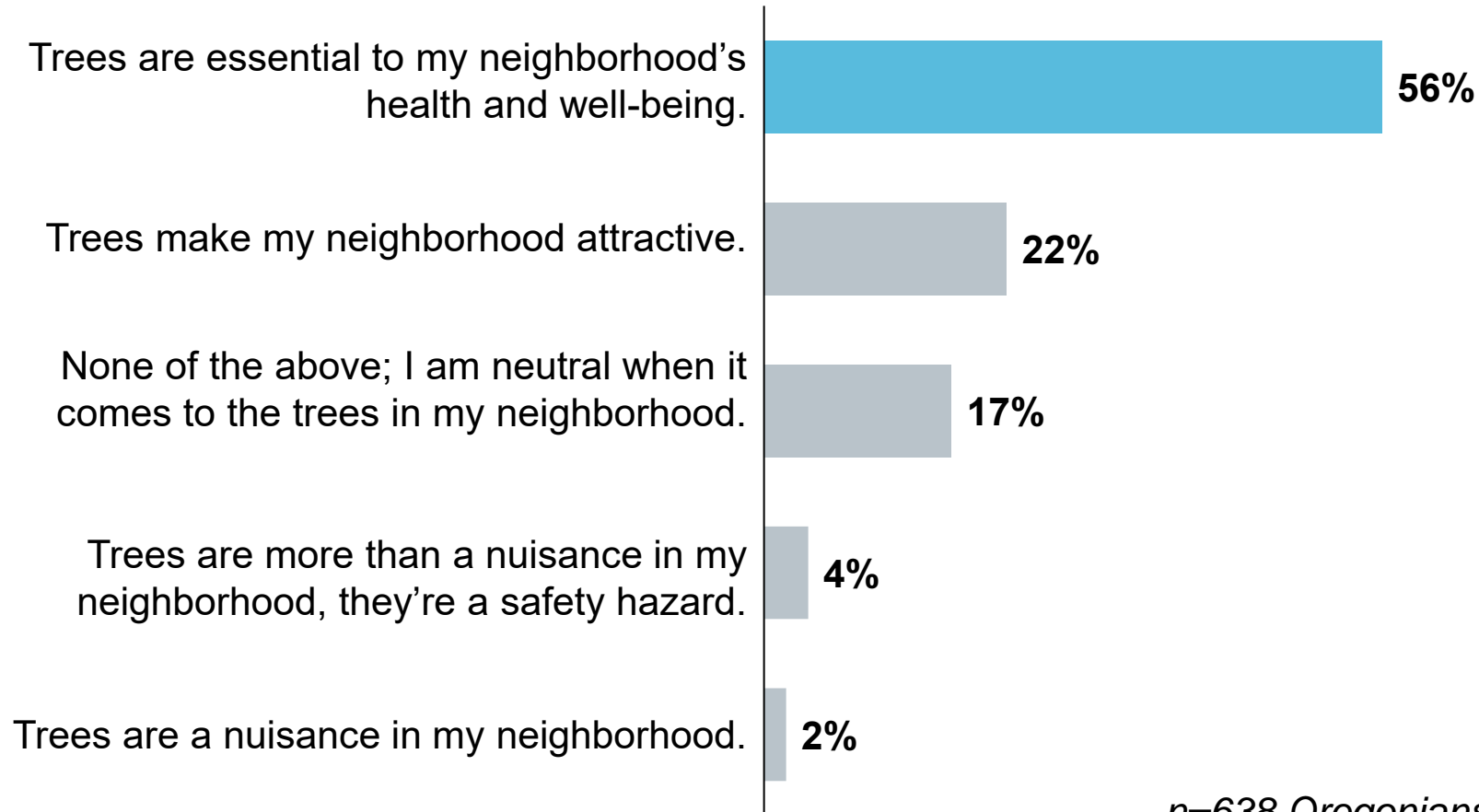




# Oregonians would look to ODF, the internet, or local tree care companies if they had questions about the safety or health of a tree near their house

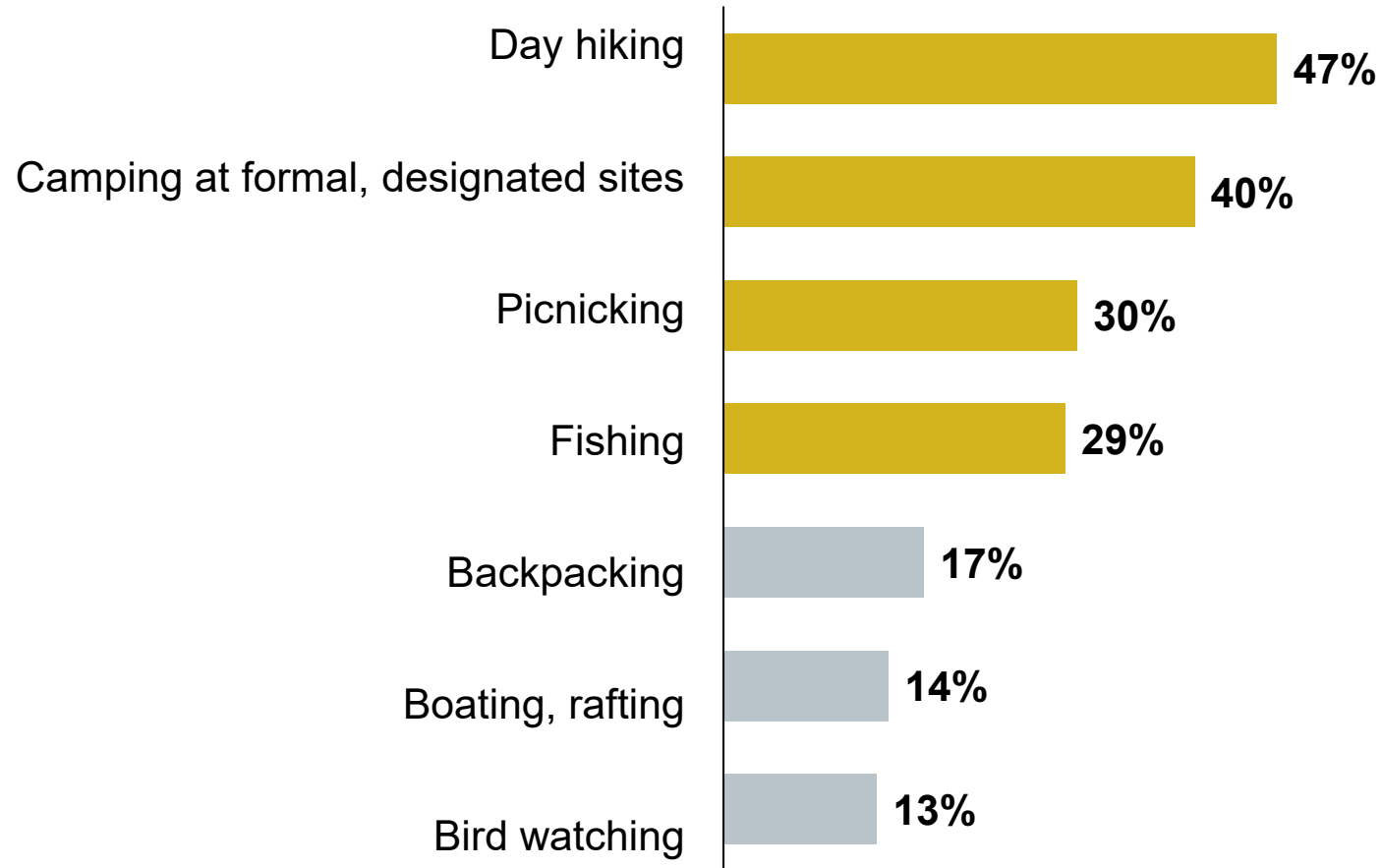


# Half of Oregonians see trees as essential to their neighborhood's health and well-being



*n=638 Oregonians in non-rural areas*

# Oregonians are most interested in day hiking, camping, picnicking, and fishing activities

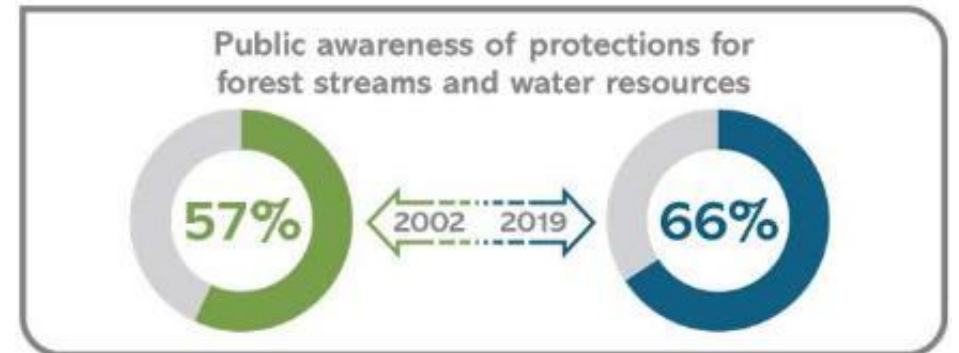
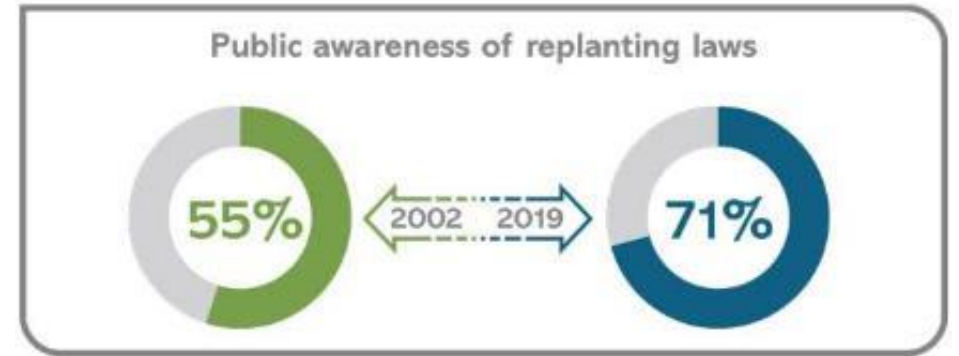




# Public research over time

OFRI research shows an increased awareness of forest practice laws among the general population between 2002 and 2019.

This occurred in tandem with a 26% increase in Oregon population from 2000-2020.



# OFRI educational programs

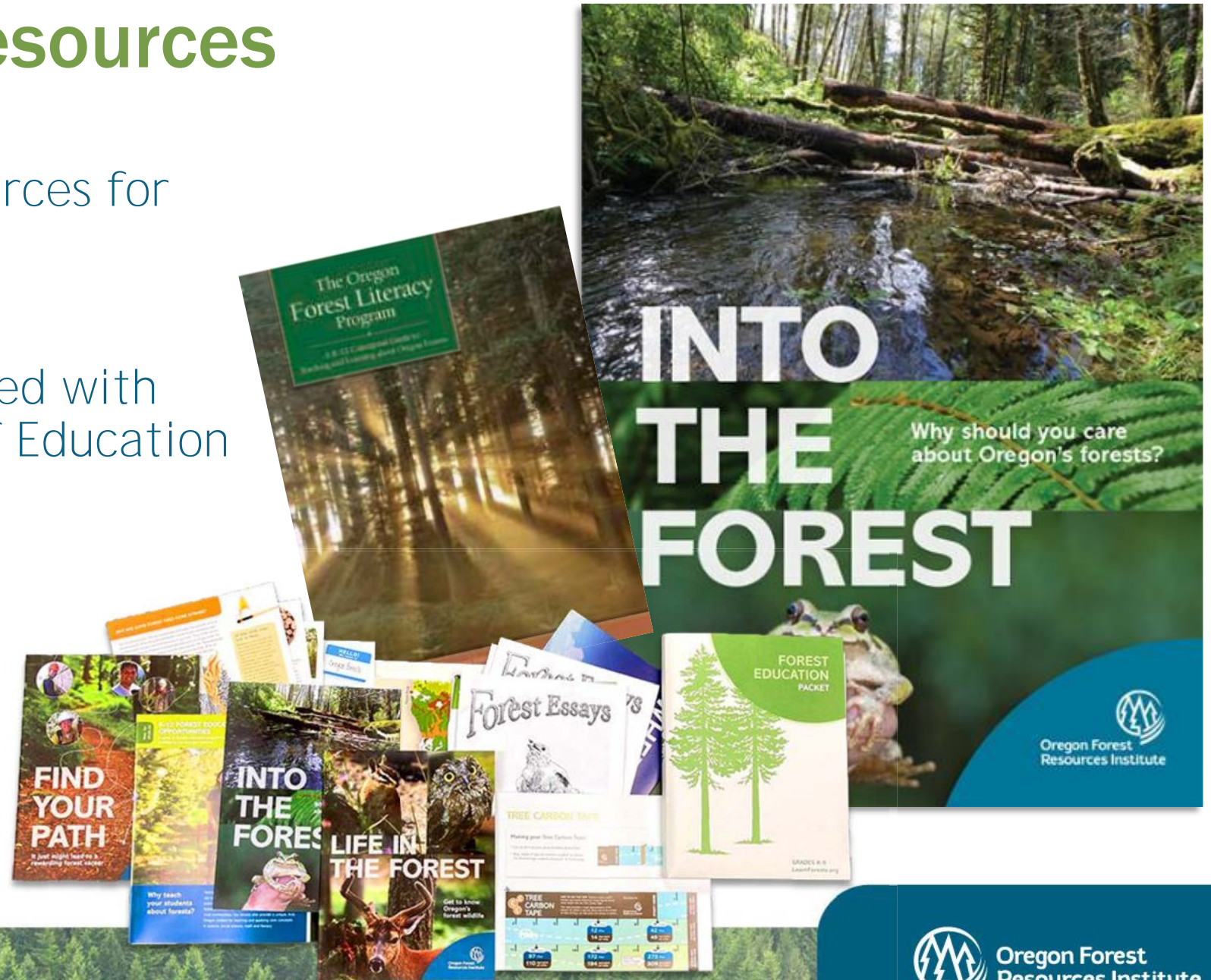
- public education
- K-12 education
- landowner education





# OFRI in-class resources

- publications and resources for every grade level
- **FREE of charge**
- all resources are aligned with Oregon Department of Education state standards





# Oregon Natural Resources Education Program (ONREP)

Professional development for teachers

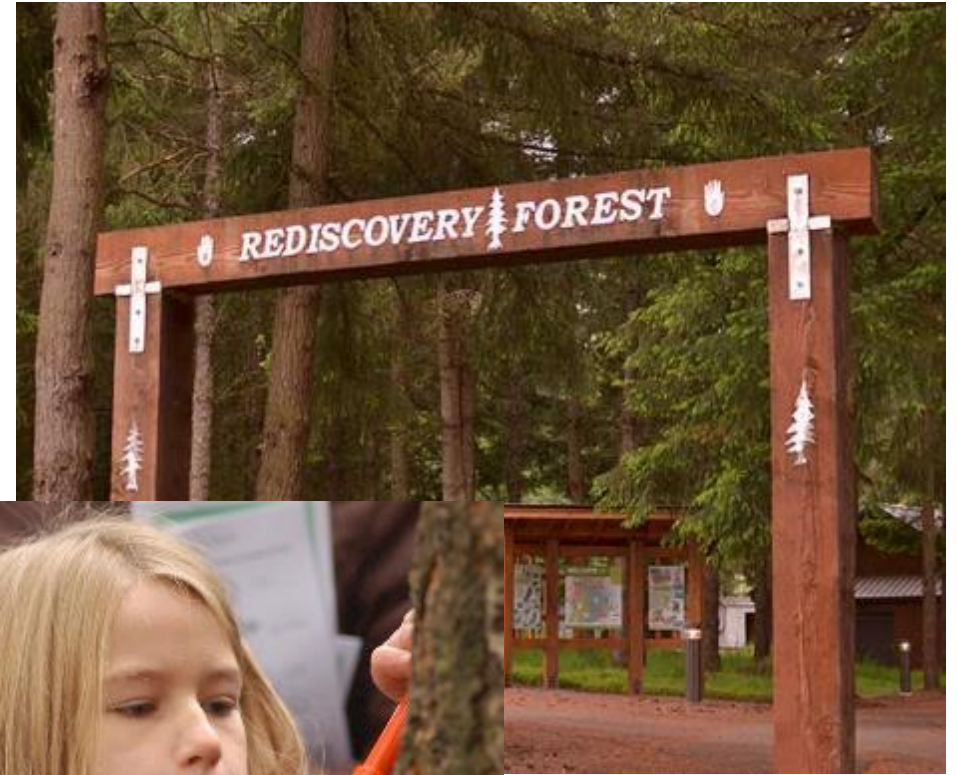
- housed at the Oregon State University College of Forestry
- OFRI provides vast majority of program funding
- provides Project Learning Tree (SFI program)
- serves  $\approx 1,000$  educators every year



# Teaching forest

OFRI manages the Rediscovery Forest, a 15-acre teaching forest in Silverton

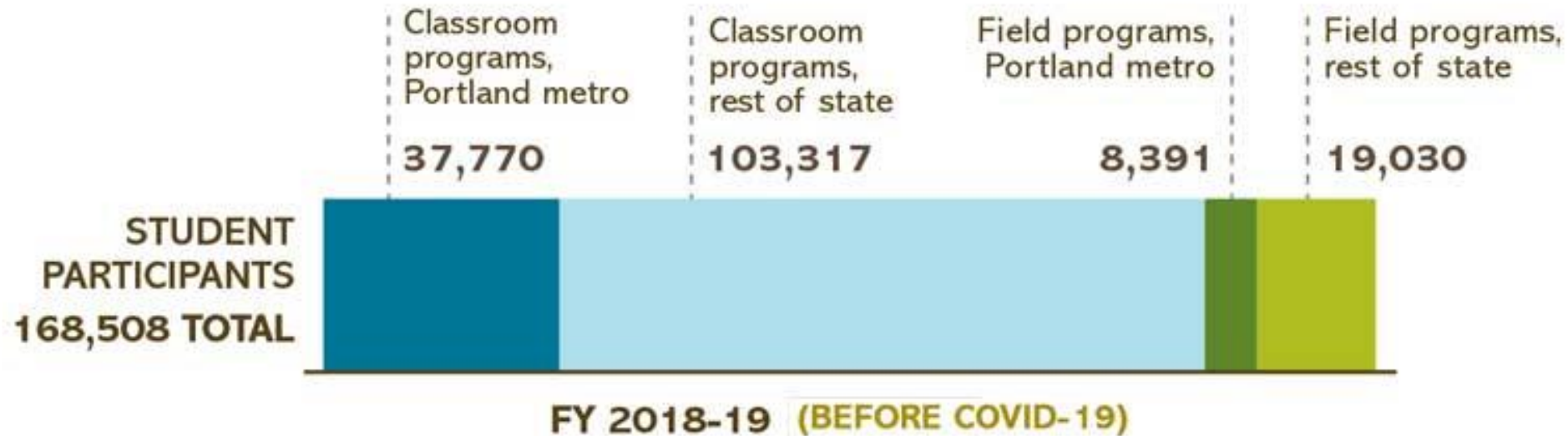
- pavilion showcases Oregon forest products
- student education program
- outdoor school non-resident programs
- teacher workshops
- Envirothon: a statewide skills competition for high school students
  - Adapting to the Changing Climate (2023)
  - Renewable Energy for a Sustainable Future (2024)





# K-12 education

## STUDENTS REACHED



OFRI sponsors classroom and field-forest education programs offered through Forests Today & Forever, Talk About Trees, the Tillamook Forest Center, the Oregon Garden Natural Resources Education Program and Port Blakely Tree Farms, among others.





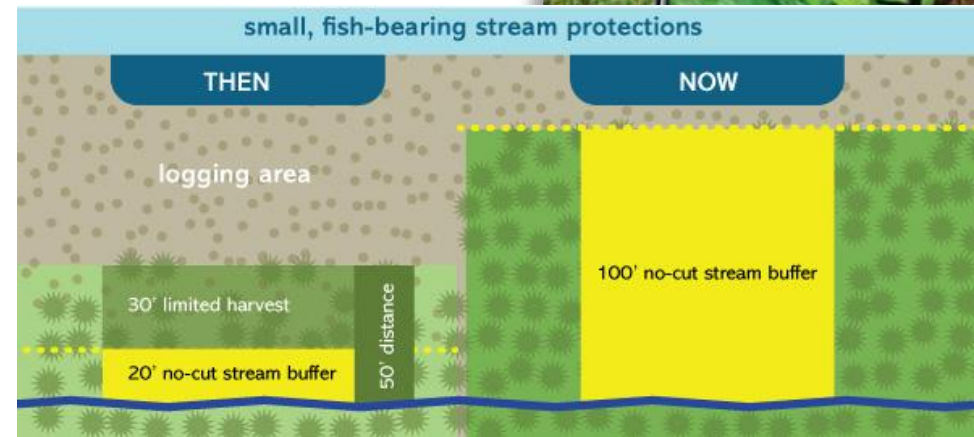
# OFRI educational programs

- public education
- K-12 education
- landowner education



# Landowner education

- >70,000 forest landowners
- encouraging sustainable forest management
- partnerships to help deliver programs
- available resources and hands-on training opportunities





# Partnership for Forestry Education

- OFRI, OSU and ODF are founding members
- consolidated and coordinated landowner education
- resources and website managed by OFRI: [KnowYourForest.org](http://KnowYourForest.org)



## Partnership for Forestry Education



Oregon Forest Resources Institute

# Funding for Oregon State University programs

## Master Woodland Managers

- forest management training
- community volunteer service

## Women Owning Woodlands

- WOWNet: Peer learning program
- mentorship and networking

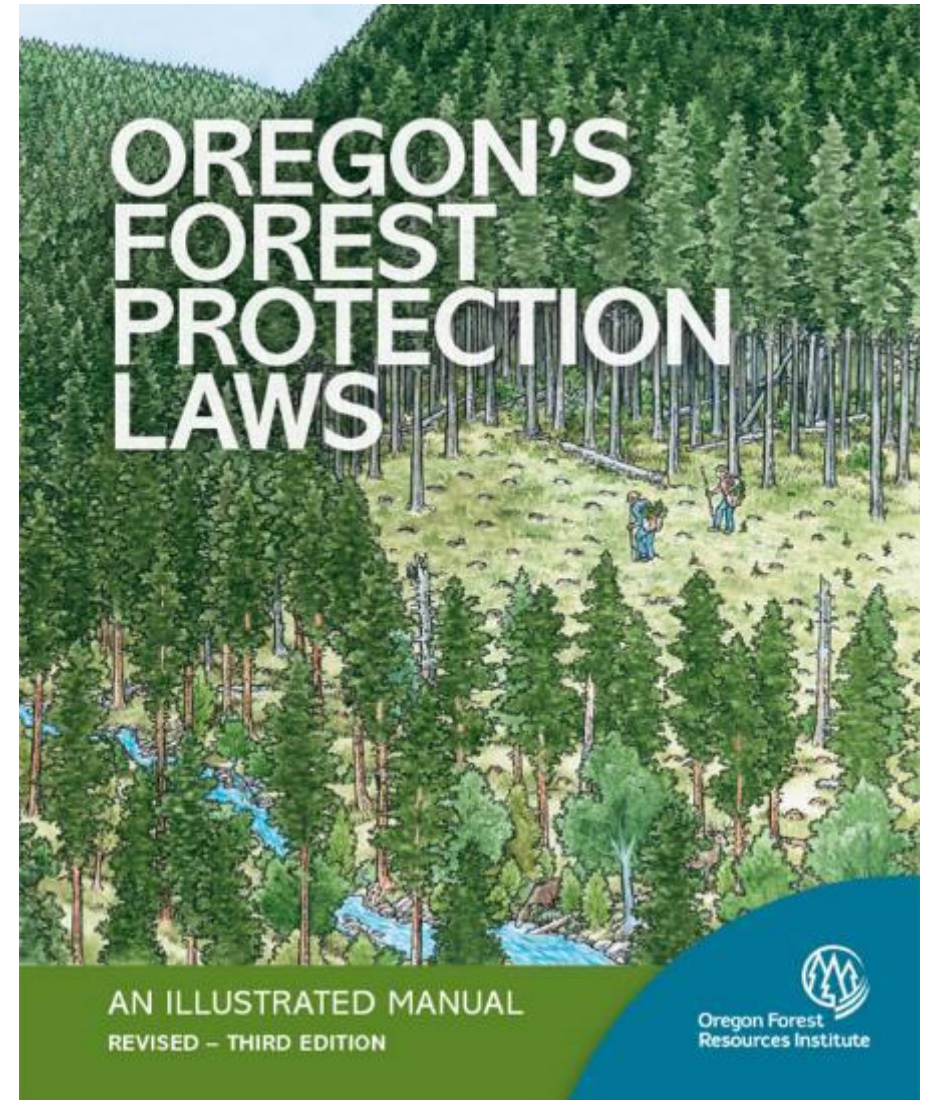
OFRI provides funding for the professional staff at OSU Extension for both of these programs





# Oregon Forest Protection Laws: An Illustrated Manual

- created in partnership with ODF, OSU Extension Service and Associated Oregon Loggers
- educates landowner and operators on current laws, rules and best practices
- three editions since 2000
- update on the way, including all changes from the Private Forest Accord





# Training and resource opportunities

Created and offered in partnership with university representatives, scientists and regional expertise

- changes in forest protection rules
- managing for wildlife habitat
- current research
- harvesting and slash management
- more



# OFRI landowner education

Over 6,000 forest landowners directly served annually

Region	Participants
North Coast	632
Willamette Valley	4,157
Southwest Oregon	781
Central Oregon	359
Eastern Oregon	554
<hr/>	
TOTAL	6,483





# Website resources

OFRI manages 6 websites.

4 for the public

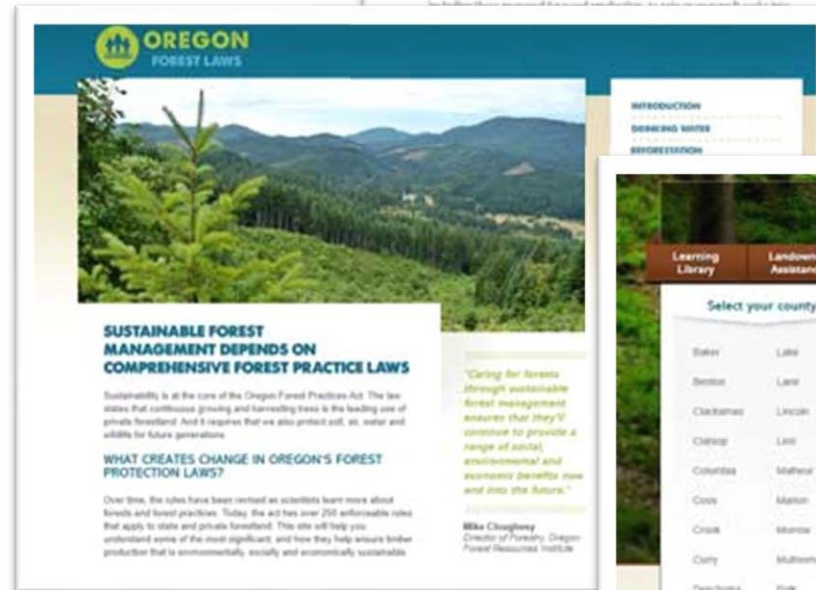
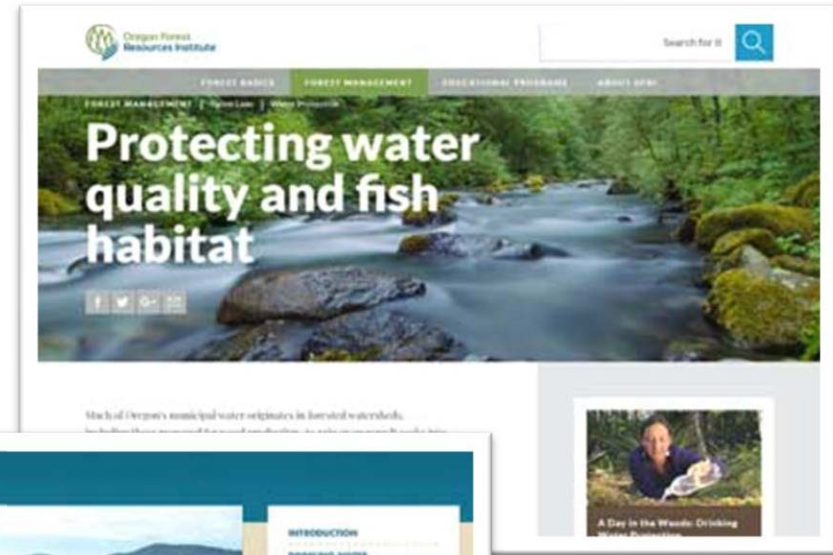
- OregonForests.org
- OregonForestFacts.org
- OregonForestLaws.org
- TheForestReport.org

1 for landowners (PFE website)

- KnowYourForest.org

1 for K-12 teachers

- LearnForests.org







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# Thank you!

Jim Paul

[paul@ofri.org](mailto:paul@ofri.org)

[OregonForests.org](http://OregonForests.org)



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A close-up photograph of a spotted salamander, likely a Hellbender (Cryptobranchus alleganiensis), resting on a mossy log. The salamander has a brown and black mottled pattern on its back and a lighter, speckled pattern on its belly. Its large, dark eyes are prominent.

**OREGON  
FOREST FACTS**  
2023-24 EDITION



# Evolving times for Oregon forestry

Oregon's timber and forest products industries, collectively known as the forest sector, are at a watershed moment.

The historic 2021 Private Forest Accord collaboratively led to legislation in 2022 to modify the Oregon Forest Practices Act regulations in a way that expands habitat protections for forest-dependent fish and aquatic species. The agreement between the state's timber industry and conservation groups aims to provide greater business, environmental and regulatory certainty.

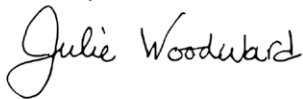
Meanwhile, Oregon's forest sector continues to lead the country in softwood lumber, plywood and engineered wood products production, all while employing more than 60,000 people and managing forests for sustainable timber harvests that help preserve our forest land base.

Recent years have not been without challenges for the state's forest-related industries, including the economic impact of the 2020 Labor Day fires, recovery from a pandemic-induced recession and a statewide labor shortage. But the Oregon forest sector continues to overcome these challenges while working to provide the ecological, social and economic benefits Oregonians expect from forests.

This latest issue of *Oregon Forest Facts* continues the tradition of the Oregon Forest Resources Institute bringing you the latest statistics and information on Oregon's forest sector, including more details on the topics listed above.

Thank you for your interest in Oregon's forests and forest sector.

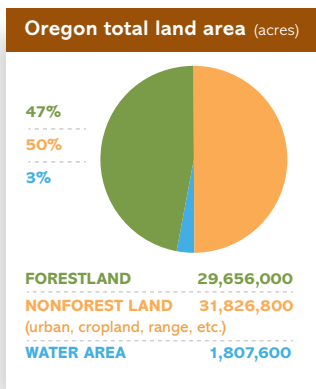
Sincerely,

A handwritten signature in black ink that reads "Julie Woodward". The signature is written in a cursive, flowing style.

Julie Woodward, Director of Forestry  
Oregon Forest Resources Institute

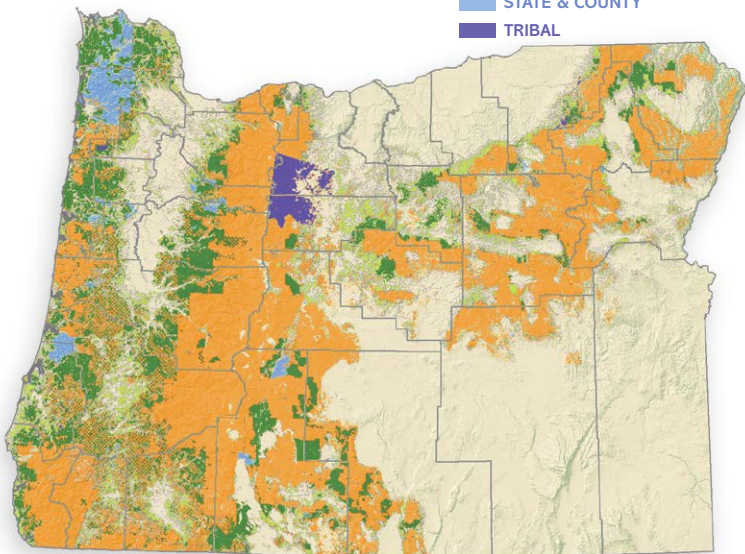
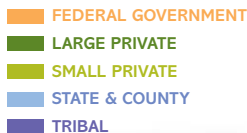
# Forestland area<sup>1</sup>

Nearly half of Oregon is forestland. Oregon forests vary by species composition and ownership. There are more than 30 distinct forest types, but Douglas-fir dominates in western Oregon, ponderosa pine in eastern Oregon, and mixed conifers in southwest Oregon. In terms of ownership, the federal government manages 61% of Oregon forests; private owners manage 34%; state and county governments manage 4%; and Native American tribes manage 2%.



Ownership	Forestland (acres)	Percent of total
U.S. Forest Service	14,093,000	48%
Bureau of Land Management	3,573,000	12%
National Park Service	160,000	1%
Other federal	32,000	<1%
<b>Total federal</b>	<b>17,858,000</b>	<b>61%</b>
State	942,000	3%
County and municipal	187,000	1%
<b>Total state and county</b>	<b>1,129,000</b>	<b>4%</b>
<b>Total government</b>	<b>18,987,000</b>	<b>64%</b>
Large private landowners (>= 5,000 acres)	6,487,000	22%
Small private landowners (<5,000 acres)	3,702,000	12%
<b>Total private</b>	<b>10,189,000</b>	<b>34%</b>
Native American tribal forestland	480,000	2%
<b>TOTAL FORESTLAND, all owners</b>	<b>29,656,000</b>	<b>100%</b>

# Forestland ownership<sup>1</sup>



## FOREST MANAGEMENT STYLES VARY BY OWNER

Oregon's forests are managed to reflect the varied objectives and practices of a diverse array of landowners. These include the federal government, which owns the largest portion of Oregon's forestland, as well as state, county and municipal governments, private timber companies, nonprofits, tribes and small woodland owners, each with a range of goals for their land. Some forests are managed primarily for timber production, while others are set aside as parks, wilderness areas or reserves to protect old-growth, riparian or endangered species habitat. Many Oregon forest landowners try to find a balance between environmental and economic values, managing their forests for multiple uses including recreation, water, wildlife habitat, wildfire mitigation and timber.



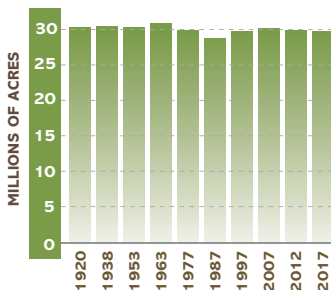
# Historic forestland changes <sup>2</sup>

The amount of total public and private forestland in Oregon has held mostly steady, at about 30 million acres, for nearly 100 years. In fact, it's estimated to have been about 30 million acres in the 1600s, as well.

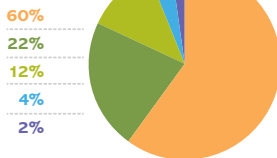
## FORESTLAND OWNERSHIP AND TIMBER HARVEST

While the federal government manages most of the forestland in Oregon, only a relatively small portion of Oregon's timber harvest happens on federal land, and most of that is from thinning. About 76% of the total state harvest comes from private timberlands.

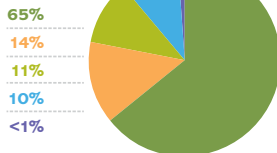
### Oregon forestland acreage



### FORESTLAND ACREAGE, BY OWNER (2018)<sup>1</sup>



### TIMBER HARVEST, BY OWNER (2020)<sup>3</sup>



FEDERAL

LARGE PRIVATE

SMALL PRIVATE

STATE/COUNTY

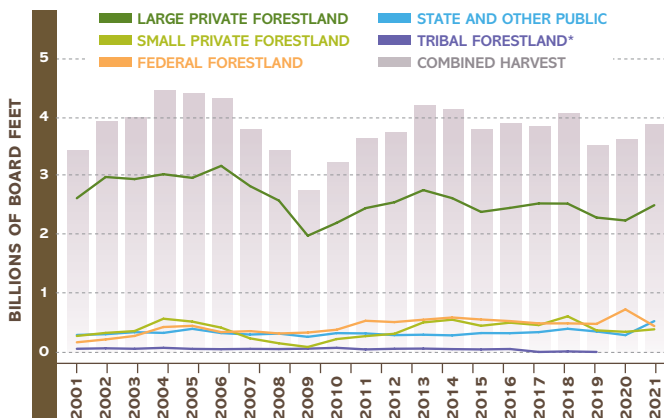
TRIBAL

# Oregon timber harvest levels<sup>3</sup>

Timber harvest levels from public and private forestlands over the past 20 years have remained relatively stable, although the Great Recession (2007-09) and the collapse of the housing market brought a severe contraction in the U.S. demand for lumber. Consequently, Oregon's timber harvest reached a modern-era low in 2009, the smallest harvest since the Great Depression in 1934. By 2013, the harvest had rebounded to roughly pre-recession levels.

In the five most recent years where data is available (2017-2021), Oregon timber harvest averaged around 3.8 billion board feet. The 2020 Labor Day fires led to a short-term increase in timber harvest due to post-fire salvage logging on private land. However, long-term annual timber harvest is expected to decrease between 100 and 250 million board feet per year from 2026 to 2065 due to loss of future growth on trees killed by wildfires in 2020.

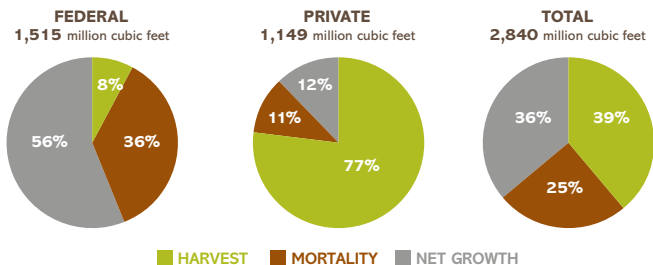
Oregon timber harvest by owner (2001-2021)



\*2020 and 2021 data not available for tribal

# Forest growth, mortality and harvest<sup>1</sup>

## Yearly growth, mortality and harvest 2005-2015



Oregon forests grow about 2.8 billion cubic feet of new wood per year. Overall, about 39% is harvested, 25% ends up in trees that die from natural causes, and 36% adds to the volume of standing timber.

On private forestland, where most timber harvest happens in the state, the amount of wood harvested each year is about 77% of the annual timber growth. About 11% of that growth is offset by trees that die from causes such as fire, insects and disease.

On federal lands, only about 8% of the annual timber growth is harvested each year. The amount of timber that dies offsets annual growth by 36%. The remainder of the growth, a net change of 56%, adds to the volume of standing timber in those forests.

On many federal forests in eastern and south-central Oregon, high growth combined with high mortality has created unusually dense forests with stressed trees that are more prone to insect infestation, disease and uncharacteristically severe fire. Much work has been done in recent years to reduce the number of trees and to clean up dead wood on federal forests, by thinning and other fuels reduction treatments such as prescribed burning.



# Oregon is number one

Oregon has led the nation for many years in producing softwood lumber and plywood typically used for homebuilding. Oregon's lumber output of 6.1 billion board feet in 2021 accounted for about 16.5% of total U.S. production, while Oregon plywood mills accounted for about 28% of total U.S. plywood production in 2021.

## Top softwood lumber-producing states (in millions of board feet)<sup>4</sup>

	2016	2017	2018	2019	2020	2021	% of U.S. total for 2021
<b>Oregon</b>	<b>5,646</b>	<b>5,742</b>	<b>6,100</b>	<b>5,724</b>	<b>5,983</b>	<b>6,141</b>	<b>17%</b>
Washington	3,580	3,833	4,010	4,245	4,456	4,484	12%
Alabama	2,413	2,430	2,524	2,909	3,322	3,511	10%
Georgia	2,791	2,866	2,837	2,703	3,258	3,383	9%
Arkansas	2,179	2,467	2,701	2,577	2,566	2,562	7%
<b>TOTAL U.S.</b>	<b>32,535</b>	<b>33,779</b>	<b>34,907</b>	<b>35,163</b>	<b>36,908</b>	<b>37,152</b>	

## Top plywood-producing states (in millions of square feet, 3/8" basis)<sup>5</sup>

	2016	2017	2018	2019	2020	2021	% of U.S. total for 2021
<b>Oregon</b>	<b>2,512</b>	<b>2,518</b>	<b>2,475</b>	<b>2,395</b>	<b>2,291</b>	<b>2,357</b>	<b>28%</b>
Louisiana	1,180	1,250	1,258	1,274	1,186	1,213	15%
Mississippi	659	818	818	834	734	782	9%
Texas	693	695	670	654	679	680	8%
Washington	666	604	610	575	588	547	7%
<b>TOTAL U.S.</b>	<b>8,805</b>	<b>9,026</b>	<b>8,869</b>	<b>8,557</b>	<b>8,325</b>	<b>8,337</b>	

## A LEADER IN ENGINEERED WOOD<sup>5</sup>

Oregon is also a leader in producing value-added engineered wood products such as cross-laminated timber (CLT), glue-laminated timber (glulam) and mass plywood panels (MPP).

### Top 5 engineered wood states (by number of plants) in 2022

	Glulam	CLT & MPP	I-joist	Structural composite lumber	Total plants
<b>Oregon</b>	<b>7</b>	<b>2</b>	<b>4</b>	<b>5</b>	<b>18</b>
Washington	4	1	2	1	8
Alabama	3	1	1	1	6
Louisiana	-	-	2	3	5
Georgia	1	-	1	2	4
<b>TOTAL U.S.</b>	<b>35</b>	<b>8</b>	<b>14</b>	<b>19</b>	<b>76</b>

## A range of forest products

Oregon's wood products industry is a traded sector, with close to 75% of all products made here sold outside the state. This generates revenue that supports mill jobs in Oregon.

Here are some of the many different types of products that can be made from trees harvested in Oregon:

- **softwood lumber**
- **plywood**
- **hardwood lumber and plywood**
- **engineered wood products**
- **composite wood products**, such as particleboard, hardboard and fiberboard
- **posts, poles and timbers**
- **pulp and paper products**
- **moulding and millwork**
- **biomass energy** from mills burning wood waste to generate heat and electricity
- **heating** uses such as pellets and bricks, made from sawdust and mill residue
- **other wood products**, including shipping pallets, pencils and musical instruments

## Private Forest Accord<sup>6</sup>

The Private Forest Accord is a collaborative agreement made between representatives from Oregon's timber industry, the Oregon Small Woodlands Association, and prominent conservation and fishing organizations, to modify portions of Oregon's forest practice laws and regulations in a way that expands protections for fish and amphibians.

The changes to the Oregon Forest Practices Act include increasing the size of protective buffers where logging is prohibited along streams, new standards for fish-bearing-stream culvert sizes and culvert installation procedures, and new rules for logging on steep slopes.

### HABITAT CONSERVATION PLAN FOR PRIVATE FORESTS

Changes to the Oregon Forest Practices Act should allow Oregon to receive federal approval for a Habitat Conservation Plan (HCP) for private forestlands. A Habitat Conservation Plan is intended to provide long-term conservation benefits to designated wildlife species while also providing regulatory assurance and minimizing legal risks to landowners so they may continue sustainable management of their land while supporting species survival.



The Private Forest Accord expands habitat protections for the coastal tailed frog, four species of salamanders, and salmon, trout and other native fish.



# The Oregon Forest Practices Act<sup>6, 7</sup>

In 1971, Oregon became the first state to pass a comprehensive law to regulate forest practices and safeguard water, fish and wildlife habitat, soil and air. The rules of the Oregon Forest Practices Act are continually reviewed and updated to keep pace with the most current scientific research.

The rules most recently changed in 2022, in response to the Private Forest Accord agreement between the timber industry and conservation groups (see page 8). Some of those new rules are included below.

## IMPORTANT RULES

- **Reforestation:** Landowners must complete replanting within two years after a timber harvest, with at least 200 tree seedlings per acre. Within six years, the harvest area must contain healthy trees that can outgrow competing grass and brush on their own.
- **Water and stream protection:** Timber harvesting, road building and the use of chemicals are restricted close to streams, to protect fish and safeguard the source of much of Oregon's drinking water. In 2022, protective buffers along streams where logging is prohibited were expanded. New standards were added for fish-bearing-stream culvert sizes and culvert installation procedures, and some road-building rules were modified to focus on minimizing sediment in streams.
- **Wildlife habitat protection:** Live trees, standing dead trees (snags) and fallen logs must be left after a timber harvest, to provide wildlife habitat.
- **Limits on clearcutting:** Clearcuts cannot exceed 120 acres within a single ownership, including the combined acreage of any clearcuts within 300 feet of each other.
- **Steep slopes:** In 2022, the Oregon Legislature passed new rules related to logging on steep slopes, such as retaining trees in certain areas, with the intention to provide high-quality habitat to support long-term conservation of stream habitats.
- **Chemical application:** Forest protection laws limit the use of chemicals. Foresters must follow a variety of state and federal regulations when using herbicides.



Thomas Boyd, AHM Brands



Sara Duncan

## Forest sector workforce<sup>8, 9, 10</sup>

Tens of thousands of Oregonians are employed across a variety of forest-related jobs, from forestry, logging, millwork and cabinetmaking to engineering, hydrology, business management and academic research. (For a complete breakdown of the job figures, see the back cover.) These forest professionals help care for our forests, conserve fish and wildlife habitat, protect water, sustain forests for future generations, and make innovative forest products.

About 3% of Oregon jobs<sup>8</sup> are part of what is known as the “forest sector.” The sector encompasses a diverse array of career paths that include firefighters, ecologists, foresters, wildlife and fish biologists, and more. Forest sector jobs are present in each of Oregon’s 36 counties. In some rural counties, the sector is responsible for nearly a third of the economic base.<sup>9</sup>

Like other industries, Oregon’s forest sector has been affected in recent years by a statewide labor shortage. The forest sector is looking at several opportunities to improve the forestry workforce, such as by providing forest operator training programs.<sup>10</sup>

## Forest sector employment and wages<sup>9</sup>

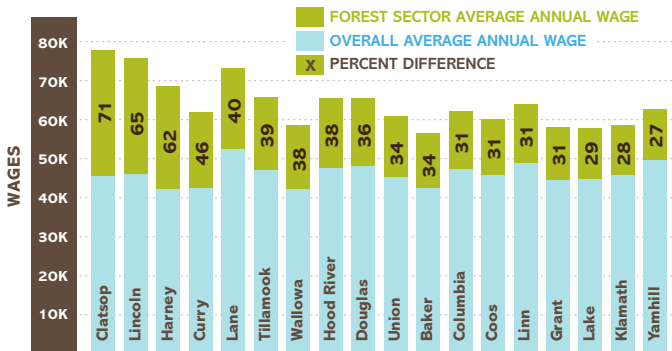
Forest-related employment in Oregon totaled 61,970 jobs in Oregon in 2021, according to the Oregon Employment Department. This



represented about 3% of the total jobs in Oregon. However, in five rural Oregon counties – Crook, Douglas, Grant, Jefferson and Lake – forest sector jobs accounted for more than 10% of the total.

The average annual wage of those jobs was \$68,200, roughly 7% more than the average wage of \$64,000 for all Oregon employment. In some Oregon counties, especially rural ones, forest sector jobs had significantly higher-than-average wages. Forest sector wages in Clatsop County, for instance, were 71% higher than the county average.

### Oregon counties with greatest forest sector wage differences (2021)





## 2020 Labor Day fires – economic impact <sup>11</sup>

The Labor Day 2020 fires burned nearly a million acres of public and private forestland, primarily in western Oregon. Compared to the average Oregon fire year, the Labor Day 2020 fires were unusual for involving more private land and burning more acres in western Oregon.

This had a large economic impact on the state's forest-related businesses, according to a study commissioned by the Oregon Forest Resources Institute that examined the economic impacts of the Labor Day fires on Oregon's forest sector.<sup>11</sup> That's because many logging and forest products companies rely on timber harvested from private forestland, which is mostly located in western Oregon, to supply mills with saw logs.

### Acres, volume and value of burned acres by owner

bbf = billion board feet.

Landowner	Forested acres burned	Volume of timber burned*	Monetary value of timber lost**
U.S. Forest Service	347,400	5.3 bbf	\$3.47 billion
Bureau of Land Management	123,000	2.2 bbf	\$1.19 billion
Oregon Department of Forestry	24,100	0.2 bbf	\$293 million
Large private	260,700	1.1 bbf	\$1.79 billion
Other private	164,500	0.4 bbf	\$764 million
<b>TOTAL</b>	<b>919,700</b>	<b>9.2 bbf</b>	<b>\$7.5 billion</b>

Acres, volume and value of timber burned, estimated by owner group, including federal, state and privately owned forests.

\*The volume of timber burned is merchantable timber that burned at medium or high severity, in billion board feet (bbf).

\*\*The monetary value of timber lost was estimated based on the volume potentially available for salvage.

## Acres, volume and value of burned acres, total

bbf = billion board feet.

	Acres	Volume	Value
Total forested acres burned	919,700	14.9 bbf	\$30.1 billion
Areas that burned with medium and high severity	594,800	9.2 bbf	\$18.6 billion
Potential areas available for salvage timber harvest	157,000	3.9 bbf	\$7.5 billion
Areas that are probable to be salvaged	105,800	1.4 bbf	\$2.6 billion

In assessing the acres, volume and value of timber burned in the Labor Day 2020 fires, analysts used a "waterfall" approach. First, the total forested acres burned are estimated. Then the acres that burned with medium and high severity are estimated, since these are the areas most in need of restoration and most likely to be candidates for salvage timber harvest. The number of potential burned acres available for salvage logging is then listed. Finally, the probable volume and value of salvaged timber is calculated.

## Summary of economic impacts

Impact description	Amount
Value of merchantable timber available for harvest	\$7.5 million
Value of pre-merchantable timber	\$704 million
Road reconstruction costs	\$27 million
Losses to forest contractors	\$100 million
Reforestation costs	\$144 million
Gross economic impact	\$8.5 billion
Offset – value of timber likely to be salvaged	\$2.6 billion
Net economic impact	\$5.9 billion

The economic impacts of the 2020 Labor Day fires were found in various parts of Oregon's forest sector. The gross impact is nearly \$8.5 billion. After a projected offset of \$2.6 billion from salvage logging, a net impact of \$5.9 billion remains.

## FUTURE IMPACTS OF THE 2020 FIRE SEASON<sup>11</sup>

The large volume of timber that was burned on private forestlands in 2020 will not be available for harvest over the next 40 years, causing a ripple effect to Oregon's forest sector, according to an Oregon Forest Resources Institute study examining the economic impacts of the 2020 Labor Day fires on the sector. The study showed that the impact of the 2020 fire season will be small in the near term, but Oregon's long-term annual timber harvest is expected to decrease between 100 and 250 million board feet per year from 2026 to 2065, due to loss of future growth on trees killed by wildfires in 2020. The cumulative timber harvest shortfall over the next 40 years is more than 7 billion board feet.

### Total wildland fires and acres burned in Oregon<sup>12, 13, 14</sup>

The total number of Oregon wildfires per year has remained fairly stable, but the total acres burned has increased in recent years. In 2020, the acreage burned on Oregon Department of Forestry (ODF) protected lands was nearly 10 times the average of the previous 10 years. This is because of the large amount of private land that burned in the Labor Day fires.

Year	ODF fires	ODF acres	Total fires	Total acres
2022	*879	*3,4512	*2,045	*446,534
2021	1,134	228,778	2,203	828,778
2020	981	541,372	2,215	1,141,613
2019	1,020	17,077	2,295	79,735
2018	1,112	76,774	2,019	897,263
2017	1,091	47,162	2,049	714,520
2016	832	5,661	1,245	219,509
2015	1,079	86,849	2,588	685,809
2014	1,120	53,387	3,087	984,629
2013	1,186	104,167	2,848	350,786
2012	689	17,547	1,599	1,290,527
Average (2013-22)	1,044	119,576	2,259	634,918

\*Data available as of 11/2022, Oregon Department of Forestry



# Sustainable forestry

Oregon forest landowners may choose to gain recognition from independent, third-party forest sustainability certification systems by meeting certain standards for sustainable forest management.

America's three largest certification systems are the American Tree Farm System (ATFS), the Forest Stewardship Council (FSC) and the Sustainable Forestry Initiative (SFI).

Forest certification may give wood product consumers, architects, engineers and builders an added level of assurance that the products used in their construction projects were produced using responsible and sustainable forestry practices.

## Oregon acres certified by the three major forest certification systems

(as of June 2022)

Certification system	Acres
American Tree Farm System <sup>15</sup>	719,106
Forest Stewardship Council <sup>16</sup>	172,304
Sustainable Forestry Initiative <sup>17</sup>	3,889,098
<b>TOTAL</b>	<b>4,780,508</b>



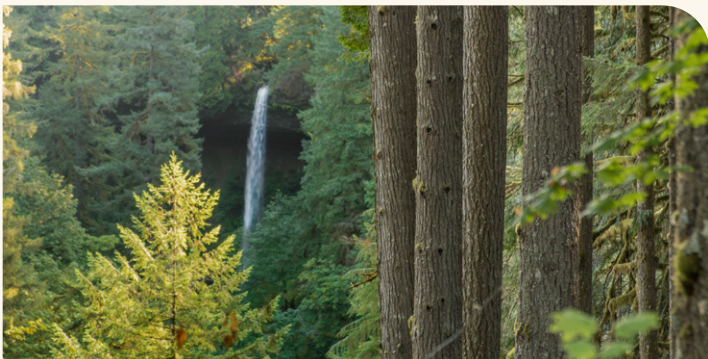
## FOREST PRACTICES ACT AND SUSTAINABILITY

Sustainable forestry requires following best management practices to protect water and other resources. In Oregon, the Oregon Forest Practices Act mandates the use of best management practices. An independent third-party audit commissioned by the Oregon Department of Forestry found that Oregon-grown wood meets the Leadership in Energy and Environmental Design (LEED) credit for wood used in a building project if it comes from forests subject to the Oregon Forest Practices Act.

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## ABOUT THE OREGON FOREST RESOURCES INSTITUTE

The Oregon Forest Resources Institute supports and enhances Oregon's forest products industry by advancing public understanding of forests, forest management and forest products.



# An array of jobs

Oregon's forest sector includes a wide variety of employment, from forestry, logging, millwork and cabinetmaking to engineering, hydrology, business management and academic research.

Here's a rundown of Oregon's forest sector jobs in 2021, by type of employment.<sup>4</sup>



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## Oregon's forest sector jobs - 2021

### Forest management

Company management	1,088
Forestry and environmental consultants, researchers, academics	282
Bureau of Land Management	944
State of Oregon	863
U.S. Forest Service	3,672
<b>Subtotal</b>	<b>6,849</b>

### Forestry support

Forestry support (nurseries, machinery manufacturing, firefighting)	6,698
Logging	6,204
<b>Subtotal</b>	<b>12,902</b>

### Primary forest products

Pulp and paper manufacturing	4,056
Sawmills and wood preservation	6,285
Veneer, plywood and engineered wood	8,981
<b>Subtotal</b>	<b>19,322</b>

### Secondary forest products

Millwork (doors, windows, custom)	5,941
Wood kitchen cabinets and countertops	3,890
Other (manufactured homes, wood buildings, pallets, furniture, etc.)	2,769
<b>Subtotal</b>	<b>12,600</b>

### Distribution, transportation and other

Wood products wholesalers	2,774
Paper products wholesalers	763
Transportation of logs, chips, goods	5,150
Other (biomass electric power, airport operations, marine cargo handling, etc.)	1,610
<b>Subtotal</b>	<b>10,297</b>

**TOTAL** **61,970**

**PRIVATE FOREST ACCORD**

**HISTORIC AGREEMENT EXPANDS AQUATIC HABITAT PROTECTIONS**



**Oregon Forest  
Resources Institute**

A photograph of several salmon swimming in a stream over a rocky riverbed. The fish are in various stages of spawning, with some showing reddish-brown hues. The water is clear and greenish, and the rocks are grey and brown.

# FINDING COMMON GROUND



# AGREEMENT LEADS TO NEW LAWS

## Historic adversaries collaborate on updating forestry rules



Photo: Office of Gov. Kate Brown

**A COLLABORATIVE PROCESS** Representatives from Oregon's forest products industry and conservation groups came to a collaborative agreement to change the state's forest laws, called the Private Forest Accord.

In early 2020, Oregon's timber wars seemed to be heating up again.

Unlike the disagreements between the timber industry and environmental groups that came to a head in the 90s – over the listing of the northern spotted owl and the subsequent impacts to federal forest management – this debate centered on privately owned forests, and how the state regulates logging and other forestry practices on those lands.

Both sides were embroiled in a costly and unpredictable battle over competing ballot initiatives regarding Oregon's forest practice regulations that seemed poised to appear on the November 2020 ballot. These initiatives came on the heels of fierce debate between

## GOALS

The overall goals pursued during the Private Forest Accord process were:

- ✓ **Provide greater business certainty.** Provide a greater level of certainty for forest landowners and industries that depend on Oregon's privately managed forests.
- ✓ **Provide greater environmental certainty.** Provide a greater level of certainty for the survival and recovery of threatened and endangered species, and the protection of aquatic resources.
- ✓ **Provide greater regulatory certainty.** Submit a supportable application to the appropriate federal agencies to achieve a Habitat Conservation Plan for private and non-federal forests, which will yield the issuance of an incidental take permit and enhance habitat for the species covered by the plan.
- ✓ **Provide a science-driven adaptive management process.** Establish an adaptive management program with diverse stakeholder input that will examine the efficacy of newly established water-related state forest practice regulations going forward.
- ✓ **Provide alternatives for small forest landowners.** Address the disproportionate impacts that regulatory changes might have on small forest landowners and provide alternative compliance plans and/or financial impact mitigation for those potential impacts.



the timber and forest products industry and the conservation and fisheries community about how to adequately manage private forests to achieve a range of environmental and economic outcomes.

Despite the deeply entrenched political camps that formed, the ballot box battle never came. In February 2020, both sides agreed to drop their initiative petitions. Instead, they planned to start a series of conversations in hopes of finding common ground.

The prospect of expensive ballot initiative campaigns helped convince representatives from the industry and conservation groups to come to the negotiating table, says Jason Miner, who served as former Oregon Gov. Kate Brown's natural resources policy director.

"This is a generation of people who have spent their careers fighting the same battles," he says. "They recognized that they didn't have to burden the next generation. Folks were getting together to talk about a better way forward."

As these conversations were happening, Brown saw an opportunity to broker an agreement between the two sides, Miner says. It would come to be known as the Private Forest Accord.

In June 2020, the Oregon Legislature passed Senate Bill 1602, which included a requirement for mediated talks between conservation groups and the forest products industry. The hard work began in January 2021, as representatives from each side began to meet in hopes of hashing out an agreement with the help of a professional mediator. The talks required "a tremendous amount of relationship and trust-building," Miner says.

*(continued)*

## THOUGHTS ON THE PRIVATE FOREST ACCORD

“Both sides recognized that the old way of doing things wasn't working; and in fact, there were common sense updates to the Forest Practices Act that would benefit the continued health of our forests, streams, fish and wildlife, as well as opportunities for the continued vibrance and growth of our forest products industry.”

**Kate Brown**, former Oregon governor

“While this agreement is predominantly about cold, clean water for fish, what's good for fish is good for Oregonians. We are ensuring a future of clean water and healthy forests, while maintaining tens of thousands of jobs that make Oregon the national leader in carbon-friendly building materials.”

**Chris Edwards**, president of the Oregon Forest Industries Council

“We are thrilled to join the governor and timber industry counterparts on a new path for Oregon's forests and for our organizations. The measures announced (on October 30, 2021) provide significant new protections for our fisheries, for cold, clean water, and for the people who rely on these resources.”

**Bob Van Dyk**, former Wild Salmon Center Oregon policy director



Sources for quotes: Oregon Governor's Office remarks and news releases on May 18, 2022 and October 30, 2021.

## PAST EVENTS

**February 10, 2020** – Eleven forest products companies, the Oregon Small Woodlands Association, and 13 conservation and fisheries organizations sign a memorandum of understanding agreeing to drop their competing initiative petitions and lay the foundation for the Private Forest Accord process. The memorandum serves as a good-faith effort by the timber, conservation and fishing communities to find collaborative approaches to resolving numerous conflicts regarding Oregon's forest practice laws and regulations.

**June 2020** – The Oregon Legislature holds a special session and passes Senate Bill 1602. The law includes a requirement for mediated talks between the conservation groups and forest products companies that signed the memorandum of understanding. It also creates new regulations for the helicopter application of pesticides in forests, adds electronic notifications for neighbors of helicopter pesticide spray operations, and expands an existing requirement to leave a buffer of unharvested trees standing along streams containing salmon, steelhead and bull trout to southern Oregon's Siskiyou region.

**January 12, 2021** – A subset of the memorandum of understanding signatories representing the forest products industry and small woodland owners, and conservation and fisheries organizations, begin a series of mediated discussions led by then Gov. Kate Brown.

**October 25-29, 2021** – To meet the deadlines for the 2022 Oregon legislative session as outlined in Senate Bill 1602, representatives from each side meet in Portland to finalize the Private Forest Accord agreement. Gov. Kate Brown and several members of her staff attend many of the negotiations.

**October 30, 2021** – The parties involved in the Private Forest Accord reach an agreement on a series of proposed changes to the Oregon Forest Practices Act (which regulates logging and other forestry activities on private land) for the Oregon Legislature to consider during the 2022 session. The parties jointly agree that the changes will form the basis for the state to develop and submit for federal approval a private forests Habitat Conservation Plan covering five fish species, four salamanders and one type of frog.

**February 2022** – Private Forest Accord representatives from Oregon's forest products sector and the conservation community encourage the Legislature to approve three bills: Senate Bill 1501, directing the Oregon Board of Forestry to adopt updates to the Oregon Forest Practices Act; Senate Bill 1502, creating a new tax credit program for small forest landowners; and House Bill 4055, establishing future funding through the state's forest products harvest tax.

**March 2022** – The Legislature passes all three bills with bipartisan support. The Oregon Board of Forestry is tasked with establishing new forest practice rules for private forest landowners based on changes to the Oregon Forest Practices Act outlined in the new laws, as well as leading the development of a private forests Habitat Conservation Plan.

**May 18, 2022** – Gov. Kate Brown signs the Private Forest Accord legislative package into law in a ceremony at the World Forestry Center in Portland. The event is attended by representatives from 25 private forestry, small forestland, conservation and fishing organizations who negotiated the historic agreement.

**October 27, 2022** – Following a public comment period and months of work by the parties involved in the Private Forest Accord to develop a package of new Forest Practices Act rules to present to the Oregon Board of Forestry, the board adopts the new rules, which will impact more than 10 million acres of private and non-federal forests in Oregon.

**December 31, 2022** – The Oregon Department of Forestry submits a preliminary application to the federal government for the private forests Habitat Conservation Plan.

**July 1, 2023** – Expanded no-cut buffers prohibiting logging along streams go into effect for large private forest landowners.



Photo: Oregon Dept. of Fish and Wildlife

*(continued from page 3)*

In October 2021, representatives from 11 forest product companies, the Oregon Small Woodlands Association and 13 conservation groups reached an agreement. Brown herself stepped in to aid in the final days of talks that led to the agreement. It proposed that the Oregon Legislature make some of the most significant changes to Oregon's forest practice laws and regulations – known as the Oregon Forest Practices Act – in 50 years. The changes expanded forest habitat protections for fish and amphibians.

Two years after first agreeing to collaborate, the Legislature passed a legislative package modifying Oregon's forestry laws that both sides supported.

The new laws brought certainty to both the industry and the conservation community, Miner says. The industry gained regulatory certainty, while the conservation side gained a greater level of certainty for the protection of threatened fish and wildlife, he says.

For Brown, the Private Forest Accord will go down as a major achievement during her time as governor, Miner says.



Photo: Office of Gov. Kate Brown



“Collaboration has been a mainstay of her time in public office,” he says. “This was an issue where she was able to bring together an agreement that brings stability.”

The Private Forest Accord also demonstrates that timber and conservation camps can work together instead of battling it out in court, at the ballot box, or in front of the Oregon Board of Forestry, Miner says.

“Hopefully we now have a platform where these two caucuses can talk to each other and find a better way to make agreements in the future. There’s now a place where people can talk through and resolve these differences.”

## FUTURE EVENTS

- **January 1, 2024** – Remaining new rules go into effect for all private forest landowners.
- **December 31, 2027** – The federal government either approves the Oregon private forests Habitat Conservation Plan, or the new rules sunset.



## PARTIES INVOLVED IN THE PRIVATE FOREST ACCORD

Following months of mediated negotiations, representatives from forest product companies, Oregon’s largest small-woodland owner organization, and conservation and fisheries groups authored the Private Forest Accord Report. It outlines an agreement the parties reached in October 2021 on a series of proposed changes to the Oregon Forest Practices Act, which regulates logging and other forestry-related activities on private land. The authors of the report were:

### Conservation authors

Audubon Society of Portland  
Beyond Toxics  
Cascadia Wildlands  
Klamath-Siskiyou Wildlands Center  
Northwest Guides and Anglers Association  
Oregon League of Conservation Voters  
Oregon Stream Protection Coalition  
Oregon Wild  
Pacific Coast Federation of Fishermen’s Associations  
Rogue Riverkeeper  
Trout Unlimited  
Umpqua Watersheds, Inc.  
Wild Salmon Center

### Forestry authors

Campbell Global  
Hampton Lumber  
Lone Rock Resources  
Manulife Investment Management, Timberland and Agriculture (formerly Hancock Natural Resource Group)  
Nuveen Natural Capital (formerly GreenWood Resources)  
Oregon Small Woodlands Association  
Port Blakely  
Rayonier  
Roseburg Forest Products  
Sierra Pacific Industries (formerly Seneca Sawmill)  
Starker Forests, Inc.  
Weyerhaeuser

Throughout the Private Forest Accord process, the report authors sought guidance from the following state and federal agencies:

Oregon Department of Environmental Quality  
Oregon Department of Fish and Wildlife  
Oregon Department of Forestry  
National Marine Fisheries Service  
U.S. Fish and Wildlife Service

**READ THE FULL REPORT HERE:**  
[bit.ly/PFAreport](https://bit.ly/PFAreport)



# THE FUTURE OF FORESTRY IN OREGON



## State adopts major changes to forestry regulations

When the Oregon Legislature passed the Oregon Forest Practices Act regulating forest management practices on state and private land in 1971, the law was the first of its kind in the nation.

### RECENT FOREST PRACTICES ACT CHANGES INCLUDED:



#### Expanded stream protections

Oregon law requires preserving buffers of trees and vegetation along fish-bearing streams to shade the water and keep it cool for fish. These no-cut stream buffers were expanded to be 10% to 100% wider, depending on the stream size, its location and whether it contains certain species of fish. The updated forest practices rules also include new protections for non-fish-bearing streams. (See pages 8-11 for more information.)



#### New forest road standards

New standards were adopted for the sizes of fish-bearing-stream culverts, which carry streams under roads, and culvert installation procedures. Some existing forest road-building rules were modified to focus on minimizing sediment in streams. Large forest landowners are now required to complete a forest road inventory within five years and update all roads to new standards within 20 years. Small forest landowners need to complete a road condition assessment when filing notice with the state of plans to harvest timber. (See pages 12-13.)



#### New rules for logging on slopes

A new set of forest practice rules for large forest landowners applies to logging on steep slopes. This includes requirements to retain trees in certain areas so that if a natural landslide occurs, some of the trees will end up in streams and provide high-quality fish habitat. Computer modeling will be used to identify the locations of these potentially unstable slopes. (See pages 14-15.)

Outlining a set of forest practice rules aimed to protect water sources and other vital natural resources, as well as fish and wildlife habitat, the act has been amended and updated more than 30 times since it was first adopted – but never as significantly as in 2022, following the Private Forest Accord agreement between the forest products industry and conservation and fishing groups.

On October 27, 2022, the Oregon Board of Forestry approved more than 100 changes to the Forest Practices Act stemming from the agreement to increase protections for fish and amphibian habitat on privately owned forests.

## FOREST LAW COMPLIANCE AND ENFORCEMENT

The Private Forest Accord also led to changes in how the Oregon Department of Forestry monitors compliance with the Oregon Forest Practices Act and determines the fines enforced on those who violate the act's rules.

A new compliance monitoring program will assess rule compliance and report findings to the Oregon Board of Forestry, Oregon Legislature and federal agencies. The new program will prioritize monitoring private landowner compliance with forest practice rules for protecting water, logging on steep slopes, and forest road construction and maintenance.

New requirements for private forest landowners related to the compliance monitoring program include reporting completed forestry activities to the Oregon state forester after submitting an initial notification of planned forestry operations.

While the formula used by the state to calculate fines for forest landowners or forestry companies that break the forest practice rules remains the same, the new rules increased the maximum civil penalty from \$5,000 to \$10,000 per violation.

The state forester will also now maintain a list of repeat violators that will be used in the civil penalty calculations process.

A new formula will be used to calculate fines for significant violations of the Oregon Forest Practices Act. The base penalty for those violations is set at \$2,000, with a maximum penalty of \$50,000 or the value determined by the formula, whichever is less.



Photo: Oregon Dept. of Fish and Wildlife

Photo: Christopher Cousins

### A new adaptive management program

All future changes to Oregon's forest practice rules regarding stream and riparian habitat protections will be coordinated through the Oregon Department of Forestry's new adaptive management program. The program uses diverse stakeholder input and a science-driven process to analyze the need for any additional changes to water-related forestry regulations to better protect fish and amphibians. (See pages 21-23)

These changes should allow Oregon to receive federal approval of a **Habitat Conservation Plan** for private, county and municipal forestlands, as well as an accompanying incidental take permit for federally listed threatened and endangered species of fish and amphibians. A Habitat Conservation Plan is a planning document intended to provide long-term conservation benefits to designated wildlife species, while also providing regulatory assurance and minimizing legal risks to landowners for the unintentional harm of federally listed species when it occurs incidental to otherwise lawful activity. (See pages 24-26.)



# PROTECTING AQUATIC HABITAT

## Expanded stream protections for fish, amphibians and other wildlife

Wherever there is water in the forest, there is an abundance of life.

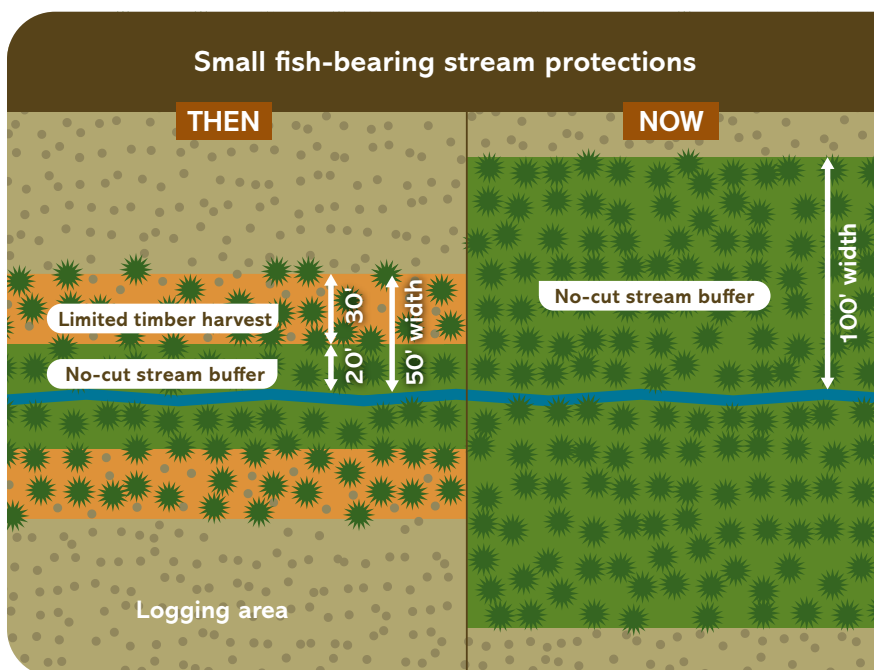
Riparian areas, whose soil and vegetation are shaped by the presence of water from streams, rivers and wetlands, support some of the highest density of plants and animals of any type of habitat found in the forest.

“You’re seeing a hugely diverse community of vertebrates and invertebrates. These moist, cool ecosystems support lots of plant life, which, in turn, supports insects, amphibians, aquatic macroinvertebrates, birds and fish species,” says Tiffany Garcia, a professor of wildlife ecology at Oregon State University. “As you move up the headwaters towards the source of these streams, fish species will drop out, and we see lots of amphibians take over as top predators in these systems.”

When the Private Forest Accord agreement was being hammered out, representatives from the conservation community and the forest products industry agreed upon the importance of expanding protections for forested aquatic and streamside habitat for fish, amphibians and other wildlife.

Through a collaborative process, both sides worked on creating new forest practice rules for logging along forest stream banks. This includes widening the required buffer of trees and vegetation that must be kept standing along forest streams, rivers, lakes and wetlands, a rule that’s most stringent for waterways where fish are present.

The overarching goal of the new rules, according to the Private Forest Accord report authors, is to maintain and enhance



## What's changed?

New forest practice rules for logging along forest stream banks aim to protect fish, amphibians and other wildlife. The rules include:

- widening the buffer of trees that must be kept standing along forest streams in western Oregon to range from 75 to 110 feet in width, depending on the stream size and whether it contains certain species of fish
- requiring no-cut buffers along non-fish-bearing streams
- requiring an equipment limitation zone along non-fish-bearing streams





## STREAM PROTECTIONS

New laws expand habitat protections along forested streams.

habitat that supports fish and amphibians. Streamside trees shade the water and help keep it cool for fish. When these trees fall into the water, the logs, branches and roots provide anchor points that slow down stream flow, provide cover for fish and increase the complexity of aquatic habitats, which is especially beneficial for juvenile and spawning fish.

No-cut buffer requirements were also created for non-fish-bearing streams, since these streams could affect the temperature of the fish-bearing streams they feed into. Another new rule requires an equipment limitation zone along non-fish-bearing streams.

This piece is crucial, says Garcia, whose research includes a focus on forest amphibians and freshwater habitats. Fish tend to get a lot of attention, but many forested waterways don't contain them, she says. Non-fish-bearing streams provide important habitat to amphibians and other wildlife species that, like fish, benefit from requirements to preserve streamside vegetation, she adds.

“These protections are going to bolster biodiversity up and down these streams. In addition to protecting species that reside in the streams and waterways, a lot of animals use riparian corridors as highways. Having an intact habitat up and down that entire ‘road system’ allows for a lot of movement, and that just makes your community stronger. That connectivity is really important for the entire watershed.”

## EXPANDED PROTECTIONS FOR BEAVERS

The Private Forest Accord recommended additional protections for beavers because of the important role they play in helping to enhance fish habitat.

Beaver dams benefit cold water-loving fish species such as salmon and trout, because they create ponds that store cool water in the summer. Beaver ponds also store groundwater, which sustains riverside vegetation, that in turn shades rivers and streams, further cooling the water for fish.

The Private Forest Accord recommended that the Oregon Legislature approve more reporting requirements to the Oregon Department of Fish and Wildlife for managing beaver activity and resolving the issues beavers cause to forest landowners. These requirements were part of Senate Bill 1501, which the Legislature passed in 2022.



Photo: Jimmy Taylor



## Protective stream buffer widths vary

Under the Oregon Forest Practices Act, loggers and forest landowners are required to leave buffers of uncut trees and vegetation along the borders of streams, rivers, lakes and wetlands. This rule is the most stringent for waterways where fish are present. These areas are called “riparian management areas,” “RMAs,” or simply “stream buffers.”

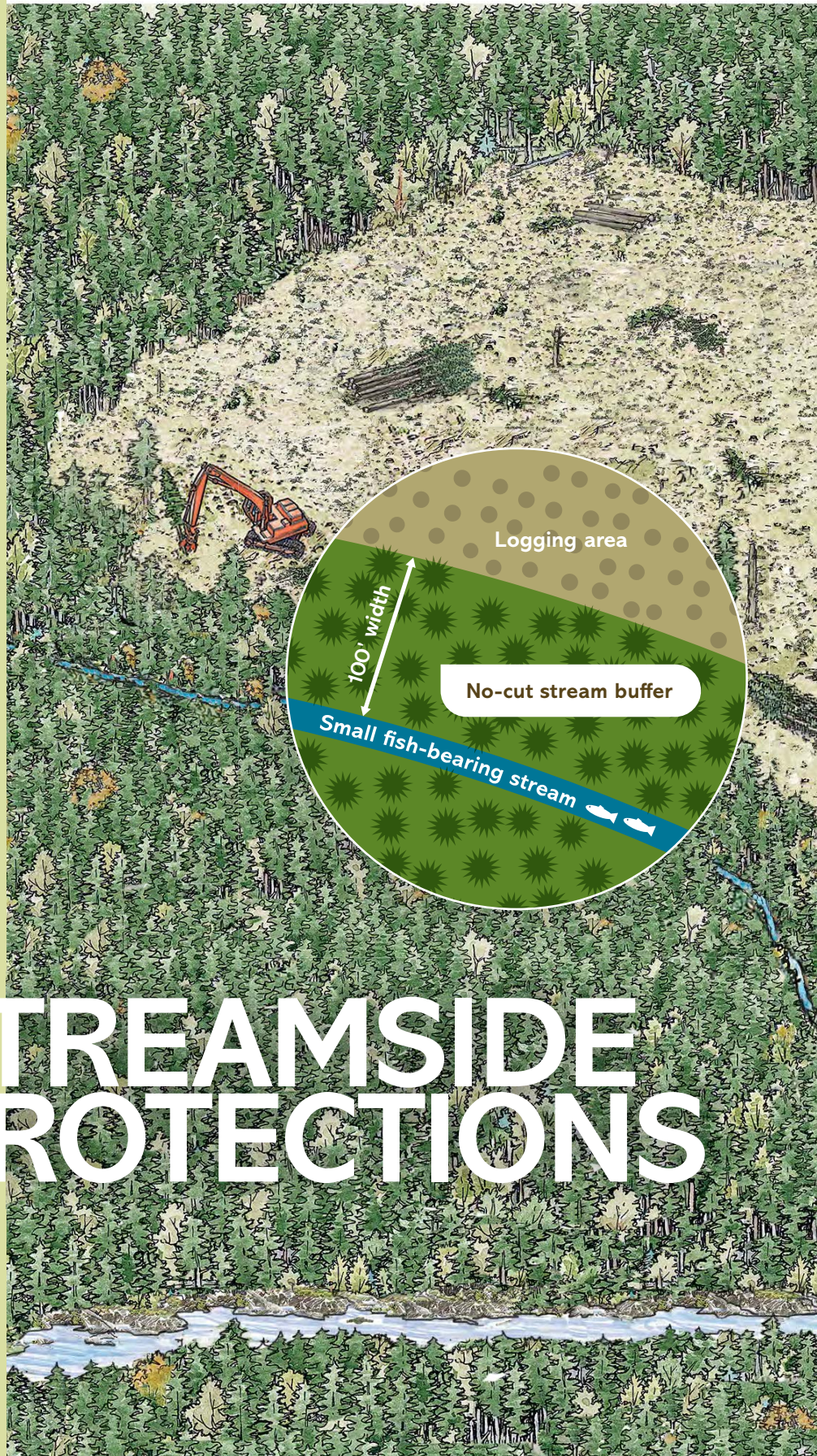
Within these buffers, logging is either prohibited or severely restricted, because leaving trees along streams shades the water and keeps it cool for fish. Although originally intended to protect fish and water, a large number of amphibians and invertebrates also benefit from these protected streamside habitats.

The required width of these buffers was expanded in 2022 as a result of approved legislation following the Private Forest Accord agreement. Protective buffers along streams were increased overall, and range from 75 to 110 feet in width, depending on the size of the stream and whether it contains certain species of fish.

The Oregon Legislature also passed a law in 2022 that requires stream buffers for some ephemeral headwater streams. These are streams that are seasonal, or sometimes present during significant rainfall, but are dry at other times of the year. Oregon law did not previously require forest landowners to leave buffers of uncut trees around these types of streams, but protections were added – either in the form of no-cut buffers or equipment limitation zones – because they feed into fish-bearing streams and aquatic habitats.

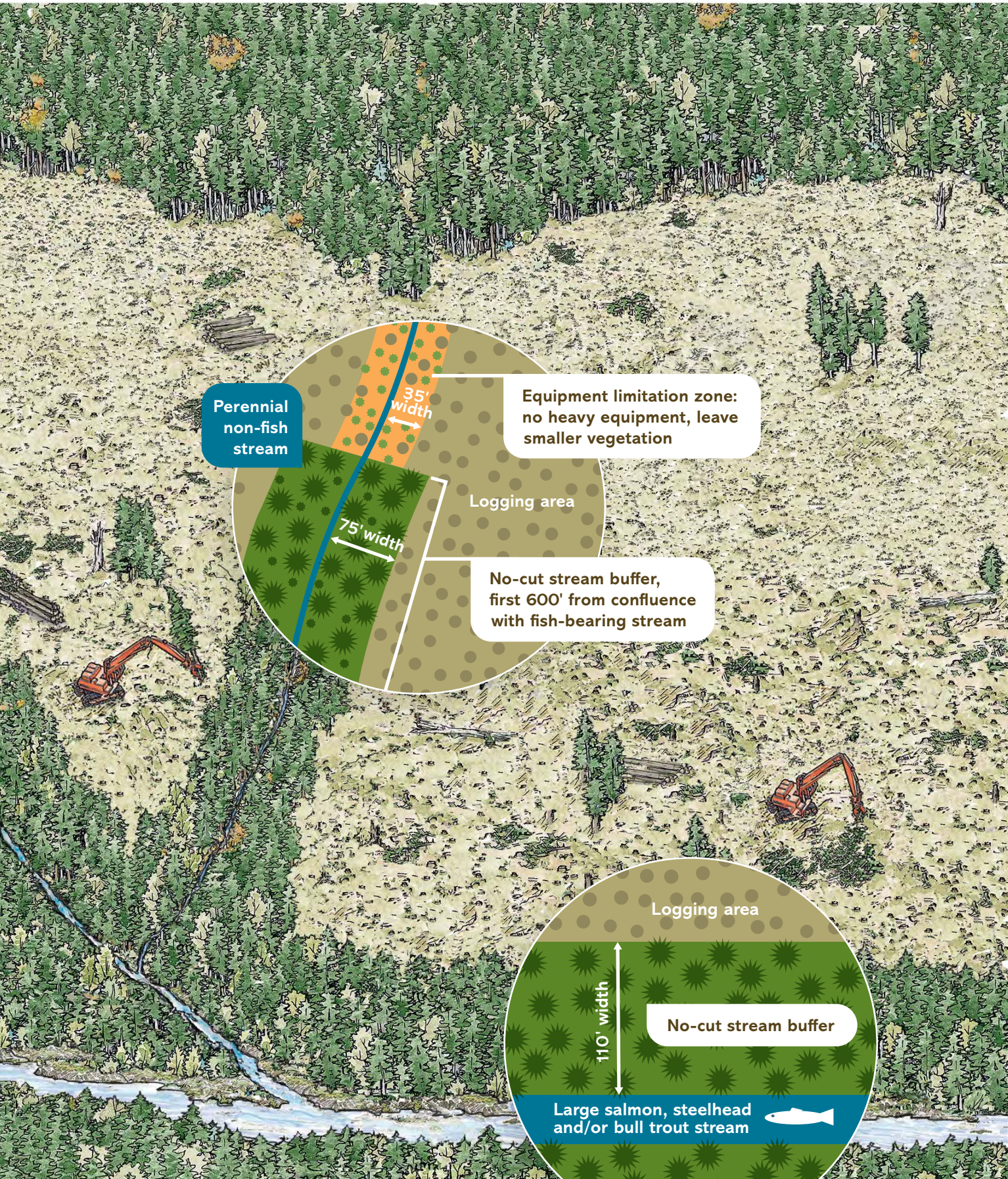
The width of the required no-cut buffers varies by stream size and location. The buffer requirements also vary between western and eastern Oregon.

This illustration is an example of a fish-bearing stream in western Oregon that contains salmon, steelhead and/or bull trout, with a small fish stream and perennial non-fish stream as its tributaries.



# STREAMSIDE PROTECTIONS





Perennial non-fish stream

Equipment limitation zone: no heavy equipment, leave smaller vegetation

Logging area

No-cut stream buffer, first 600' from confluence with fish-bearing stream

Logging area

No-cut stream buffer

Large salmon, steelhead and/or bull trout stream







# FOREST ROADS

## New road-building standards aim to protect fish habitat

Designing and constructing roads that weave through the forest – especially those that cross over streams – takes extensive planning.

It's a careful process that changes when the new forest road-building standards within the Private Forest Accord agreement go into effect, says Anna Vesper, vice president with Corvallis-based McGee Engineering Inc. The firm specializes in private forest road and bridge engineering.

The new forest practice rules expand existing state regulations that aim to minimize the impact logging roads could

have on fish and other aquatic wildlife, like blocking access to habitat or depositing sediment runoff into streams.

Although many of Vesper's clients in the forest products industry are already exceeding the existing regulatory requirements when it comes to their road-building projects, she predicts that there will still be some adjustments to the engineering and construction process for all forest landowners due to the new regulations. This includes using stream modeling to predict how a bridge or culvert design will respond to a 100-year flood event, and to specifically consider potential flood debris to reduce



the potential for the structure to plug and fail in such an event, Vesper says. Current regulations only require structures to withstand a 50-year flood event.

The new rules also require more precautions and documentation during bridge and culvert construction, especially when temporarily diverting stream water around the crossing while the structure is being built, she says. “That’s going to have the potential to be impactful for a lot of crossings.”

The updated road standards will result in wider culverts that allow streams to move more slowly through them, making it easier for fish traveling upstream. Larger culverts also provide enough space for streams to “function a lot more like a natural channel with winding bends and potential pools,” Vesper says.

New forest practice rules will require private forest landowners of 5,000 or more acres of forestland to complete a road inventory to help identify the need to upgrade older

structures that are more likely to block fish or serve as a source of sediment to streams.

“It’s a lot of the older legacy-type crossings where you see more of these issues,” she says. “While they may not be creating a road failure issue, these older structures may not necessarily provide the resource protection that is valued.”

## What’s changed?

New forest practice rules related to the construction and maintenance of forest roads, bridges and culverts aim to protect aquatic habitats and improve fish passage in areas where forest roads cross over streams. They include:

- new standards for fish-bearing stream culvert sizes and culvert installation procedures
- new standards for constructing bridges over forest streams
- additional road-building rules focused on minimizing sediment in streams during construction
- new requirements for the owners of 5,000+ acres of forestland to complete a forest road inventory within five years and update all roads to new standards within 20 years
- requirements for small forest landowners (defined as owning fewer than 5,000 acres of forestland and harvesting fewer than 2 million board feet of timber over three years) to complete a road condition assessment when filing notice with the state of timber harvest plans





**LEAVING TREES** Forest practice rules will require landowners to leave trees standing on hillsides where they could be carried into streams by a landslide.



# LOGGING ON STEEP SLOPES

## New rules intended to support stream habitats

It might seem counterintuitive, but sometimes a landslide in the forest can be a good thing – especially for fish.

New forest practice rules for logging on steep slopes, proposed by the Private Forest Accord agreement and later adopted by the Oregon Board of Forestry, recognize that landslides carrying downed trees and gravel can benefit downslope stream habitats.

“Landslides are naturally occurring, and over a span of time they can contribute large wood debris and other natural materials into the stream network, which creates complex habitats of pools and spawning gravels for fish and aquatic species,” says Keith Baldwin, a forest practices field coordinator with the Oregon Department of Forestry (ODF). Baldwin provided technical expertise



during the drafting of the new forest practice rules related to logging on steep slopes.

The new rules will require large private forest landowners to keep trees standing on hillsides and along stream channels in designated areas where slope failures are likely to initiate channelized debris flows into fish-bearing streams. All of these areas are located in western Oregon.

Restricting logging on landslide-prone slopes will have an effect similar to stream enhancement projects that mechanically place logs in streams to improve fish habitat, Baldwin says. This is because the trees left standing will be a potential source of large wood for fish-bearing streams during naturally occurring landslides.

To identify the areas on steep hillsides where landowners must retain trees, ODF worked

with TerrainWorks, a firm that specializes in geospatial modeling, to create a computer model of slopes in western Oregon. The model shows the places where landslide debris flows are most likely to travel to fish-bearing streams.

The model enables landowners who have received training and certification through ODF to determine whether they need to retain trees on certain landslide-prone slopes and debris flow channels in the areas they plan to log.

The new forest practice rules will add complexity to planning and executing logging operations on steep slopes, Baldwin says – but “we anticipate improvements to fish habitat over time, because some of the trees left on steep slopes and in stream channels will eventually make it down to fish-bearing streams.”



## What's changed?

New forest practice rules, specifically targeting large forest landowners, aim to enhance stream habitats by regulating logging activities on steep slopes in western Oregon. These include:

- requirements to retain trees in certain areas, with the intention that some of those trees will enter downslope streams, providing high-quality habitat for fish and other aquatic wildlife, if a landslide occurs
- using computer modeling to identify the location of potentially unstable slopes and streams that channelize debris flows to fish streams



## GAINING CERTAINTY

Changes to Oregon's forest practice rules will have major financial impacts on forest-related businesses, but should also provide regulatory certainty for the industry.



# LARGE FOREST LANDOWNERS

## New laws will affect how forest products companies operate

The forest products companies that participated in the Private Forest Accord engaged in a negotiation process that focused on establishing common ground with conservation groups. The objective was to attain a mutually agreed level of regulatory certainty and stability, deemed necessary for those companies, and the industry at large, to continue to operate forest-related businesses in the state.

“Oregon is the leading national producer of carbon-friendly building materials, and this industry provides tens of thousands of family-wage jobs for Oregonians,” says Sara Duncan, director of communications for the Oregon Forest Industries Council (OFIC). “Our members involved in the Private Forest Accord were acutely aware of finding

a solution that would balance environmental values while still maintaining those important contributions to both the state’s economy and the global demand for wood products for the future of forestry in Oregon.”

The Salem-based trade association represents private forest landowners and forest products manufacturers, including 10 of the 11 companies involved in the Private Forest Accord. Since the agreement was reached, OFIC has advocated for the accord and lobbied for subsequent changes to the Oregon Forest Practices Act on behalf of its member companies. In addition to the regulatory certainty it will provide to its members, OFIC supports the Private Forest Accord because it aims to promote collaboration over conflict, Duncan says.

“There’s no denying that forest policy in Oregon has historically been very controversial and divisive, and Oregonians, including those who work in the forest products sector, are ready to move on,” she says. “This agreement was an effective way to turn down the heat, and we hope the spirit of it remains durable for decades to come.”

But gaining that regulatory certainty will come at a cost, many in the industry acknowledge. More than three-quarters of Oregon’s annual timber harvest comes from private timberlands, which will be subject to the state’s new forest practice regulations. Since large private forest landowners – those who own more than 5,000 acres of forestland – will be required to leave more trees standing along streams and on steep slopes, they will be harvesting less of the timber the forest products industry relies on to supply its sawmills.

“The Private Forest Accord will take a considerable amount of timberland out of production in the state. That has serious implications for Oregon’s forest sector workers and our ability to produce locally grown and manufactured building materials,” says Steve Zika, CEO of Portland-based Hampton Lumber. The company, which has been in business in Oregon since 1942, operates sawmills and owns timberland throughout the Pacific Northwest, and was involved in negotiating the Private Forest Accord.

Then come the logistical tasks associated with getting employees up to speed on the new regulations, which in many cases add complexity to planning a timber harvest or forest road construction and maintenance, says Seth Barnes, OFIC’s director of forest policy.

“The other way our members are impacted is the cost of doing business,” Barnes says. “It

## What’s changed?

The recent changes to the Oregon Forest Practices Act resulting from the Private Forest Accord apply to large private forest landowners, defined as owning 5,000 or more acres of forestland. Changes include new stream buffer width requirements, new rules for logging on steep slopes and new standards for forest road and culvert construction and maintenance.



will cost more to lay out a timber harvest.”

Still, according to Zika, giving up the ability to log in certain areas and modifying long-term timber harvest plans is better than being constantly at odds with the environmental community over how private forestry is regulated in the state.

“Not everybody agreed that we should go through this process,” Zika says. “Not everybody agreed on the final outcome. I’m sure that’s true on the environmental side as well. But I believe most Oregonians understand that there needs to be compromise in the world and in our industry.”

Zika is optimistic about what the agreement and the coming changes to the Oregon Forest Practices Act will mean for Hampton and the forest products industry.

“We feel better knowing that there is an operating environment here in Oregon where we can continue to make lumber,” he says.



# SMALL FOREST LANDOWNERS



## DEFINITION OF SMALL FOREST LANDOWNER

Under the new forest practice laws, a small forest landowner is defined as someone who:

- owns wholly or in part fewer than 5,000 acres of forestland in Oregon
- has harvested, on average, no more than 2 million board feet of timber per year in the last three years
- does not expect to harvest more than 2 million board feet of timber per year over the next 10 years

## DIFFERENT OWNERS, DIFFERENT IMPACTS

Adapting to changes in Oregon's forest practice regulations could be a challenge for the state's more than 70,000 small forest landowners. Many are families or individuals who don't have the same resources as large forest landowners.

## New laws include special provisions for small forest landowners

Because they own less land and harvest less timber, small forest landowners will be affected differently than large forest landowners by changes to Oregon's forest practice regulations.

"The new rules will clearly have a significant impact on small forest landowners in the state," says Rick Zenn, executive director of the Oregon Small Woodlands Association (OSWA), which represents small private forest landowners.

Oregon's small forest landowners simply

don't have the same resources as large forest landowners, Zenn says. Many will require technical assistance to ensure they're in compliance with the new regulations, he says. "We'll need help with this required work."

The small scale and wide variety of ways these forestlands are managed also means that small forest landowners could face a significant financial burden from the new restrictions on certain areas of their properties, Zenn says. This could be the case on private parcels that contain streams now requiring wider no-cut buffers, he adds.

From the beginning, the Private Forest Accord negotiators had to address how the agreement would impact small forest landowners differently from large forest landowners, and OSWA had a seat at the table, Zenn says.

“In the Private Forest Accord and subsequent legislative process, we were able to make provisions for Oregon’s small forest landowners to access a suite of options different from those available to large forest landowners,” he says.

Under the new forest practice laws, small forest landowners are permitted to leave narrower no-cut buffers along streams on

their property than those required for large forest landowners. They’re also exempt from the forest road inventory; instead, small forest landowners are required to complete a road condition assessment when filing notice with the state of plans to harvest timber.

In addition, the state will offer a new tax credit for small forest landowners to compensate them for the value of the additional timber left standing along streams if they choose to follow the wider no-cut buffer requirements for large forest landowners.

The Oregon Department of Forestry has

*(continued)*

## What’s changed?

One of the goals of the Private Forest Accord was to address the potential disproportionate impacts that regulatory changes might have on small forest landowners and to provide alternative compliance paths and financial impact mitigation for these potentially disproportionate impacts.

To meet this goal, the changes to the Oregon Forest Practices Act resulting from the Private Forest Accord include special considerations for small forest landowners. These include:

- A “small forest landowner minimum option” for qualified small forest landowners that allows them to leave narrower no-cut buffers along streams on their property than the “standard practice” widths that will be required for large forest landowners.
- Instead of the forest road inventory process required for large forest landowners, small forest landowners will be required to complete a road condition assessment when filing notice with the state of plans to harvest timber.
- Small forest landowners are exempt from the new steep slope logging regulations that large forest landowners must follow.
- A new tax credit program will compensate small forest landowners for the value of additional timber left standing, if they agree to follow the wider no-cut stream buffer width required for large forest landowners instead of the small forest landowner option for the next 50 years.
- A special program called Small Forestland Investment in Stream Habitat will be offered through ODF, allowing small forest landowners to receive state funding to replace fish-bearing culverts and to make other necessary road repairs on their property in accordance with new forest road standards.

In addition, while the expanded stream-buffer requirements went into effect for large private forest landowners on July 1, 2023, small private forest landowners will not be required to follow the new forest practice rules until January 1, 2024.



Photo: David Bugni



## ASSISTANCE FOR SMALL FOREST LANDOWNERS

One of the outcomes of the Private Forest Accord specifically benefitting small forest landowners is the establishment of a Small Forestland Owner Assistance Office within Oregon Department of Forestry, which will provide technical assistance to small forest landowners in understanding and following the state's new forest practice regulations.

The office will also administer two new financial incentives for small forest landowners to undertake conservation measures aimed to enhance and protect aquatic habitats on their properties: the Forest Conservation Tax Credit and the Small Forestland Investment in Stream Habitat program.



## SMALL FOREST LANDOWNER CREDIT

When harvesting timber, small forest landowners who choose to leave the standard stream buffer required for large forest landowners instead of the small forest landowner minimum option buffer can claim a tax credit based on the value of the timber they have left standing for habitat conservation purposes.

The Forest Conservation Tax Credit will be calculated based on the stumpage value of the additional merchantable timber left unharvested in the "forest conservation area," a strip of land between the wider buffer required for large forest landowners and the narrower buffer required for small forest landowners.

To claim the tax credit, small forest landowners must file the forest conservation area as a deed restriction on their property with the county. Once the tax credit is issued, the current owner of the property and any future owners are restricted from logging in that stream buffer for a 50-year period.

If the landowner or their heirs decide to log in the stream buffer before the 50-year logging restriction expires, they would have to pay back the state for the portion of the tax credit they've already claimed. If the property changes ownership and the new owner decides to log that area, they would have to repay the original full amount of the credit.



also established a Small Forestland Owner Assistance Office that will help small forest landowners with the latest changes to the Oregon Forest Practices Act. This office will manage several programs that support the management objectives of small forest landowners, including ODF's new Small Forestland Investment in Stream Habitat program, which will provide state funding to small forest landowners to replace fish-bearing culverts and make other necessary repairs on their properties to meet the new forest road standards aimed to benefit fish.

These considerations for small forest landowners will help level the playing field, says Ken Nygren, OSWA president.

"It was gratifying to have our unique circumstances heard during the drafting of the Private Forest Accord and final legislation," Nygren says. "We have deep and very personal connections to our properties. We pour our family wealth and sweat equity into growing a healthy forest. We live on our properties. We recreate on our properties. And we meditate and seek solitude on our properties. Because of these connections, we have deep feelings about changes that increase the burdens of forest ownership on our families."



# ADAPTIVE MANAGEMENT



Photo: Tiffany Garcia

## FOREST SCIENCE

Oregon's new adaptive management program will use the latest scientific research findings to determine the need for future water-related changes to state forest laws.

## New program will use science-driven process

A key goal of the Private Forest Accord is to provide a science-driven process to evaluate the effectiveness of the new forestry regulations proposed through the agreement, along with the need for any future water-related changes to Oregon's forest laws. Enter adaptive management: a flexible decision-making method that's responsive to new scientific information.

As a result of the accord, all future changes to state forest practice rules regarding protections for forested streams and aquatic habitats will be coordinated through the Oregon Department of Forestry's new adaptive management program. The program will rely on diverse stakeholder input and the best available science to analyze the need for changes to state forestry rules. *(continued)*



## WHAT IS ADAPTIVE MANAGEMENT?

Adaptive management is “flexible decision-making that can be adjusted in the face of uncertainties as outcomes of management actions and other events are better understood,” according to the National Research Council, the operating arm of the U.S. National Academies of Sciences, Engineering and Medicine. The process involves using the most current scientific research findings on the impacts of certain land management actions to make informed decisions about adjustments to policies and operations based on those findings.

“We want to assess in a rigorous, scientific, but also inclusive, way: Are the rules achieving their resource protection goals?” says Terry Frueh, ODF adaptive management program coordinator.

The adaptive management program is a required component of the Habitat Conservation Plan that ODF is developing for private forestlands, Frueh says. The program will achieve this by assessing the effectiveness of the new forest practice rules regarding protections for forested streams and other aquatic habitats in meeting the plan’s goals to benefit certain fish and amphibian species. For example, this could include tracking stream characteristics

that can negatively impact aquatic species, such as blocked fish passage under roads or increased sediment levels, he says.

“Under each goal, you’ve got a number of objectives that specify aspects of the larger goals that focus on the protection and survival of species in the Habitat Conservation Plan,” Frueh says. “That way, through adaptive management, we can say, ‘yes, we are achieving those objectives’ or not, and adjust our programs as needed.”

ODF has long monitored the effectiveness of the Oregon Forest Practices Act and recommended rule changes to the Oregon Board of Forestry based on the latest scientific findings, Frueh says. But “the challenge there is it was a contentious process,” he says. “The department was put in the middle, but also perceived to be on one side or another.”

Adaptive management will encourage independent scientific inquiry to better understand the relationship between certain forest practices and their impact on natural resources, Frueh says. It will also provide a predictable process for changing state forestry regulations, so that landowners, regulators and the public can understand and anticipate the changes.

“The adaptive management part is both a requirement for the Habitat Conservation

## What’s changed?

All future changes to Oregon’s forest practice rules regarding protections for forested streams and aquatic habitats will be coordinated through a new adaptive management program. The program will rely on diverse stakeholder input and use a science-driven process to analyze the need for changes to state forestry rules, policies or training.

The purpose of the program will be to apply the best available science to the decision-making process used by the Oregon Board of Forestry to approve water-related changes to the Oregon Forest Practices Act rules, as well as updates to forest practice guidance and training programs.

It will also serve as an important component in creating a private forests Habitat Conservation Plan that’s approvable by the federal government. This includes measuring the effectiveness of the new forest practice rules in meeting the plan’s “biological goals and objectives” to benefit certain fish and amphibian species.



Plan and a process so that if there are any rule changes, it would be a more inclusive process to think about what science should be done and what are the outcomes of that science for moving forward,” he says.

Two committees will advise the Board of Forestry on potential changes to Oregon’s forest practice rules: The Adaptive Management Program Committee and the Independent Research and Science Team. The Adaptive Management Program Committee, which must include representatives from the forest products industry and the conservation community, will set the scientific agenda for the Independent Research and Science Team. This team will include subject matter experts in natural resource disciplines such as forestry, fisheries and ecology. It will apply science by commissioning studies or literature reviews to answer policy questions posed by the Adaptive Management Program Committee related to the effectiveness of aquatic habitat-related forest practice rules. The team will report the scientific findings, in lay terms, to both the Adaptive Management Program Committee and the Board of Forestry.

The Adaptive Management Program Committee will then relay their findings based on the Independent Research and Science Team’s research back to the Board of Forestry and make recommendations on whether state forestry rules should be changed to better meet conservation goals for fish and amphibians.

This should allow the process for gathering relevant scientific information that the board can use in rule-change decisions to “be genuinely independent,” Frueh says.

## ADAPTIVE MANAGEMENT PROGRAM COMMITTEES

As part of the adaptive management program, two committees will advise the Board of Forestry: The Adaptive Management Program Committee and the Independent Research and Science Team. The Independent Research and Science Team will apply science, including scientific literature reviews and original research, to answer policy questions put forth by the Adaptive Management Program Committee, and there is a process to report that information back to the board.

The Adaptive Management Program Committee consists of 10 voting members and three non-voting members. Voting members must include one representative from each of the following stakeholder groups and agencies:

- large forest landowners
- commercial or recreational anglers
- timber operators
- county governments
- small forest landowners
- Oregon Department of Fish and Wildlife
- conservation landowners (i.e., land trusts)
- Oregon Department of Environmental Quality
- tribes
- conservation groups

The Independent Research and Science Team members must have demonstrated subject-matter expertise in a relevant field and a graduate-level degree in a relevant natural resource-related field such as forestry, silviculture, ecology, hydrology, wildlife, fisheries and geology. The team must include one member each from a public institution, the forest products industry and a conservation group.

To learn more about the Adaptive Management Program Committee, visit [oregon.gov/odf/board/Pages/ampc.aspx](http://oregon.gov/odf/board/Pages/ampc.aspx).





A photograph of a forest stream with fallen logs and moss. The water is flowing over the logs, creating small rapids. The surrounding forest is lush with green trees and ferns.

# HABITAT CONSERVATION PLAN

## CONSERVING HABITAT

The Oregon Department of Forestry is developing a Habitat Conservation Plan outlining how the state's new forest laws will help conserve habitat for the native species of fish and amphibians covered under the plan.

## Plan outlines expanded aquatic species protections

Changes to parts of the Oregon Forest Practices Act stemming from the Private Forest Accord should allow Oregon to receive federal approval for a Habitat Conservation Plan outlining how the state's new forestry rules are likely to benefit certain species of fish and amphibians.

"It's increasing protections of the species via the Forest Practices Act regulations," says Jennifer Weikel, a wildlife biologist with the Oregon Department of Forestry. Weikel is helping draft a new Habitat Conservation Plan outlining regulatory strategies that aim to protect native aquatic wildlife habitat on Oregon's private forestlands, as well as those

owned by local governments such as counties and other municipalities.

A Habitat Conservation Plan is a planning document that explains the steps regulatory agencies, landowners and land managers are taking to ensure the conservation of habitat for specific species of fish or wildlife, and minimize potential harm, also called "incidental take," to federally listed threatened or endangered species.

If the National Marine Fisheries Service and the U.S. Fish and Wildlife Service find that a Habitat Conservation Plan meets specified criteria, the federal agencies issue an incidental take permit. This allows the permit holder to proceed with an activity that could otherwise result in the unlawful take of a threatened or endangered species.



In the case of Oregon’s private forest landowners, the incidental take permit would offer assurances that if forest management is conducted in compliance with the Forest Practices Act, landowners and forestry companies will not be subject to additional Endangered Species Act (ESA) restrictions or be liable for unintentionally harming a protected wildlife species, should it occur. This is because private landowners will be automatically covered under ODF’s incidental take permit. Also, the Habitat Conservation Plan will not establish additional restrictions to ongoing and planned forest management activities beyond those already in place under the Forest Practices Act.

“That means if they’re going about their normal business and just by normal activity something happens that causes take on one of our protected species, they’re not liable for enforcement under the federal ESA because they have the incidental take umbrella that

covers them,” Weikel says. “The Habitat Conservation Plan by itself is also not adding any new regulatory requirements for landowners.”

The crafting of a private forests Habitat Conservation Plan covering certain aquatic species is one of the goals of the Private Forest Accord. The dual aims for the plan, according to the Private Forest Accord report, are to provide a greater level of certainty for the survival of threatened and endangered aquatic species, and to provide a greater level of regulatory certainty for private forest landowners and industries that rely on Oregon’s privately owned forests to generate timber revenue and make wood products.

The plan, which is in the early stages of development, will explain how the state’s new forest practice regulations should benefit certain aquatic species that are federally

*(continued)*

## SPECIES COVERED BY THE PLAN

The parties involved in the Private Forest Accord agreed to support a private forests Habitat Conservation Plan for the following aquatic wildlife species:

- all native salmon and trout
- bull trout
- mountain whitefish
- Pacific eulachon/smelt
- green sturgeon
- Columbia torrent salamander
- southern torrent salamander
- coastal giant salamander
- Cope’s giant salamander
- coastal tailed frog

If approved, the term for the Habitat Conservation Plan, which covers all privately owned forestlands in Oregon, will be 50 years for the fish species and 25 years for the amphibian species.



Photo:  
Brome McCreary



Photo:  
Charlotte Corkran

## What's changed?

One of the Private Forest Accord's goals is for the state to submit a supportable application to the appropriate federal agencies for a Habitat Conservation Plan outlining conservation measures on private forestlands in Oregon aimed to enhance habitat for fish and amphibians.

Because changes to the Oregon Forest Practices Act negotiated through the Private Forest Accord expand habitat protections for fish and amphibians, the revised regulations should allow the state to receive federal approval for a Habitat Conservation Plan for private forestlands that covers certain aquatic wildlife species, as well as an accompanying incidental take permit for federally listed threatened and endangered species of fish and amphibians.

listed as threatened or endangered, or could be listed in the future, including all native species of salmon and trout, four other native fish species, four species of salamander and the coastal tailed frog, Weikel says.

"It's describing from the species point of view, what are the measures that are being put in place to help protect them," she says.

As the regulatory agency overseeing compliance with forest practice laws on private forestlands, ODF will draft and seek federal approval for the private forests plan, and if it's approved, hold the incidental take permit, Weikel says.

"The incidental take assurances are passed down to the private landowners via ODF and by virtue of them being in compliance with the Forest Practices Act," she says.

ODF is at the beginning of a lengthy process to gain federal approval for a private forests Habitat Conservation Plan. In late 2022, the agency submitted a working draft of the plan to federal fish and wildlife protection services.

"That will kick off the conversations with the services, but there's still a lot of work to be done," Weikel says.

In the coming years, ODF will develop a final plan and work with the federal agencies as they review it, complete an environmental impact analysis, and decide whether to grant approval and issue an incidental take permit.

As proposed through the Private Forest Accord and later mandated in state law, the process is scheduled to be completed by December 31, 2027. By this date, the federal agencies will either approve the plan, or the new forest practice rules passed by the Oregon Legislature in 2022 may sunset.

If the plan is federally approved, its term will be 50 years for the covered fish species and 25 years for the amphibian species.

"It's providing that regulatory certainty for a long period of time," Weikel says. "Because these regulations are going to be in place for 50 years for such a broad landscape, the whole state of Oregon, there's also greater long-term environmental certainty with the added protections for the species."

## TRIBES CAN OPT INTO PLAN

Oregon's new forest practice rules negotiated through the Private Forest Accord do not apply to forestlands managed by Native American tribes, but tribes have the option to opt into the Habitat Conservation Plan and be included as applicants for the incidental take permit. Tribes that opt into the Habitat Conservation Plan will have to follow the new Oregon Forest Practices Act regulations to receive incidental take permit coverage for the fish and amphibian species covered by the plan.





Photo: Christopher Cousins

## ABOUT THE OREGON FOREST RESOURCES INSTITUTE (OFRI)

The Oregon Legislature created the Oregon Forest Resources Institute in 1991 to support the forest products industry by advancing public understanding of forests, forest management and forest products. OFRI is governed by a board made up of 11 voting members appointed by the state forester, plus two non-voting members. It is funded by a portion of the forest products harvest tax.

## Acknowledgements

The Oregon Forest Resources Institute is grateful to the people who agreed to be featured here, and to the others who shared their time, expertise, insights and comments during the development of this report: Kyle Abraham, Oregon Department of Forestry; Nate Agalzoff, Oregon Department of Forestry; Keith Baldwin, Oregon Department of Forestry; Seth Barnes, Oregon Forest Industries Council; Paul Betts, Miami Corp.; Greg Block, Sustainable Northwest; Christine Buhl, Oregon Department of Forestry; Gordon Culbertson, Whitewater Forests; Sara Duncan, Oregon Forest Industries Council; Mike Eliason, Oregon Forest Industries Council; Terry Frueh, Oregon Department of Forestry; Tiffany Garcia, Oregon State University; Tim Hoffman, Oregon Department of Forestry; Jim Hunt, Campbell Global; Jason Miner, Office of Governor Kate Brown; John Seward, Oregon Department of Forestry (retired); Anna Vesper, McGee Engineering; Jennifer Weikel, Oregon Department of Forestry; Jennifer Wigal, Oregon Department of Environmental Quality; Rick Zenn, Oregon Small Woodlands Association; Steve Zika, Hampton Lumber.





**AQUATIC HABITAT PROTECTIONS** As a result of the Private Forest Accord agreement between the forest products industry and conservation groups, changes to the Oregon Forest Practices Act will expand habitat protections on private forestland for fish, amphibians and other wildlife that depend on forest streams.



Photo: Christopher Cousins



Photo: Oregon Department of Forestry



**Oregon Forest Resources Institute**

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SUMMARY REPORT



Oregon Forest  
Resources Institute

# CARBON IN OREGON'S MANAGED FORESTS





## Carbon and FORESTS

### WHAT ARE WORKING FORESTS?

Foresters often use the term “working forests” to refer to forests where the landowners or forest managers carefully balance sustainable timber production with protecting other resources – such as water quality and wildlife habitat. Oregon’s working forests include private, state and certain federal lands.

The vast forests that cover nearly half of Oregon provide an array of social, environmental and economic benefits to the state and its residents. These benefits include providing clean air and water, wildlife habitat, recreation and timber to make wood products. Another important benefit of Oregon’s forests is their ability to capture and store atmospheric carbon in growing trees as well as wood products.

By absorbing carbon dioxide, a greenhouse gas that’s a major contributor to global warming, our forests are a key ally in the fight against climate change. During photosynthesis, trees turn carbon dioxide into solid carbon that’s stored in the wood, and they release oxygen as a byproduct. As a result, Oregon’s forests store significant amounts of carbon, sequestering it from the atmosphere. That carbon remains sequestered even after trees are harvested and made into wood products.

The *Carbon in Oregon’s Managed Forests* report synthesizes the latest science on carbon sequestration and storage in Oregon’s working forests, which are primarily managed for timber production, and the wood products they produce. This summary booklet provides an overview of the report, including highlights from chapters covering:

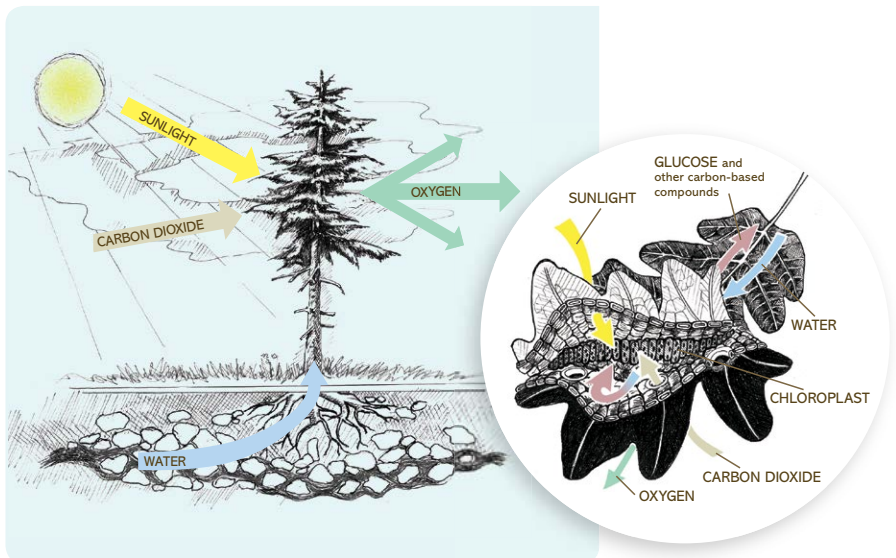
- the current status of carbon sequestration and storage in Oregon’s forests
- managing forests to increase their carbon storage
- carbon and wood products
- potential carbon markets

The report reveals the major role Oregon’s working forests play in keeping carbon out of the atmosphere, underscoring the importance of using strategies that enhance these forests’ carbon-sequestering superpowers to combat climate change.



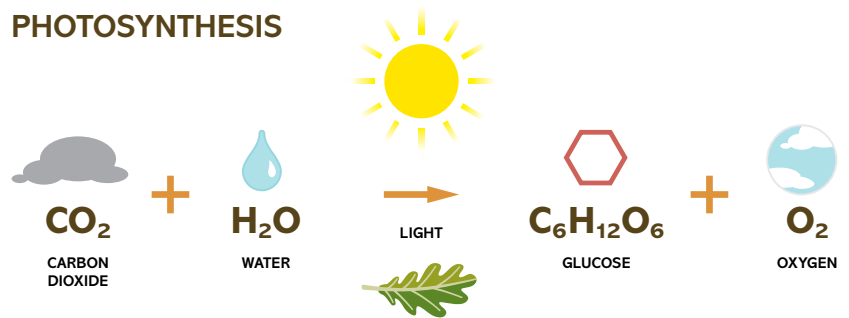
## WHY CARBON SEQUESTRATION AND STORAGE IN FORESTS AND FOREST PRODUCTS IS IMPORTANT

- Climate change is happening.** The hottest years on record have been in the last decade. Unusual weather events such as hurricanes and drought are increasing. Ice caps in Greenland and Antarctica, as well as glaciers, are decreasing in size.
- Climate change impacts forests.** Extensive research has shown that climate change is affecting forests. Major impacts include increased drought leading to reforestation challenges, longer wildfire seasons, and a long-term shift toward tree species that can tolerate warmer climates.
- Forests sequester carbon.** Forests are one of the largest terrestrial stores of carbon, and Pacific Northwest forests are among the greatest sequesterers on Earth, due to their fast growth rates and the potential to produce large volumes of timber, some of which can be used to make long-lasting, carbon-storing wood products.
- Wood products store carbon.** Half the dry weight of wood is carbon removed from the atmosphere by trees as they grow. This can remain locked away for decades in wood products, especially when used in home or other building construction. Wood also requires less energy to produce, and therefore results in fewer carbon dioxide emissions than other building materials.



Forest carbon sequestration starts with photosynthesis, the process plants use to take carbon dioxide out of the atmosphere. Chloroplasts inside leaves and needles use carbon dioxide from the air, water from the soil and energy from sunlight to produce glucose, a simple sugar. Trees use glucose to make wood, storing solid carbon in the process. Oxygen is released into the atmosphere as a byproduct.

### PHOTOSYNTHESIS



This simplified chemical equation shows how carbon atoms from the carbon dioxide molecules are moved to glucose molecules through the process of photosynthesis.

**ABOUT THE REPORT** The *Carbon in Oregon's Managed Forests* report was produced by the Oregon Forest Resources Institute (OFRI) to synthesize the current information on carbon sequestration and storage in Oregon's working forests and wood products. The report updates a similar report commissioned in 2006. Key points from the report are summarized on the following pages. To download the full report, go to [OregonForests.org/Carbon](https://OregonForests.org/Carbon).

**THE AUTHORS** *Carbon in Oregon's Managed Forests* was prepared by:

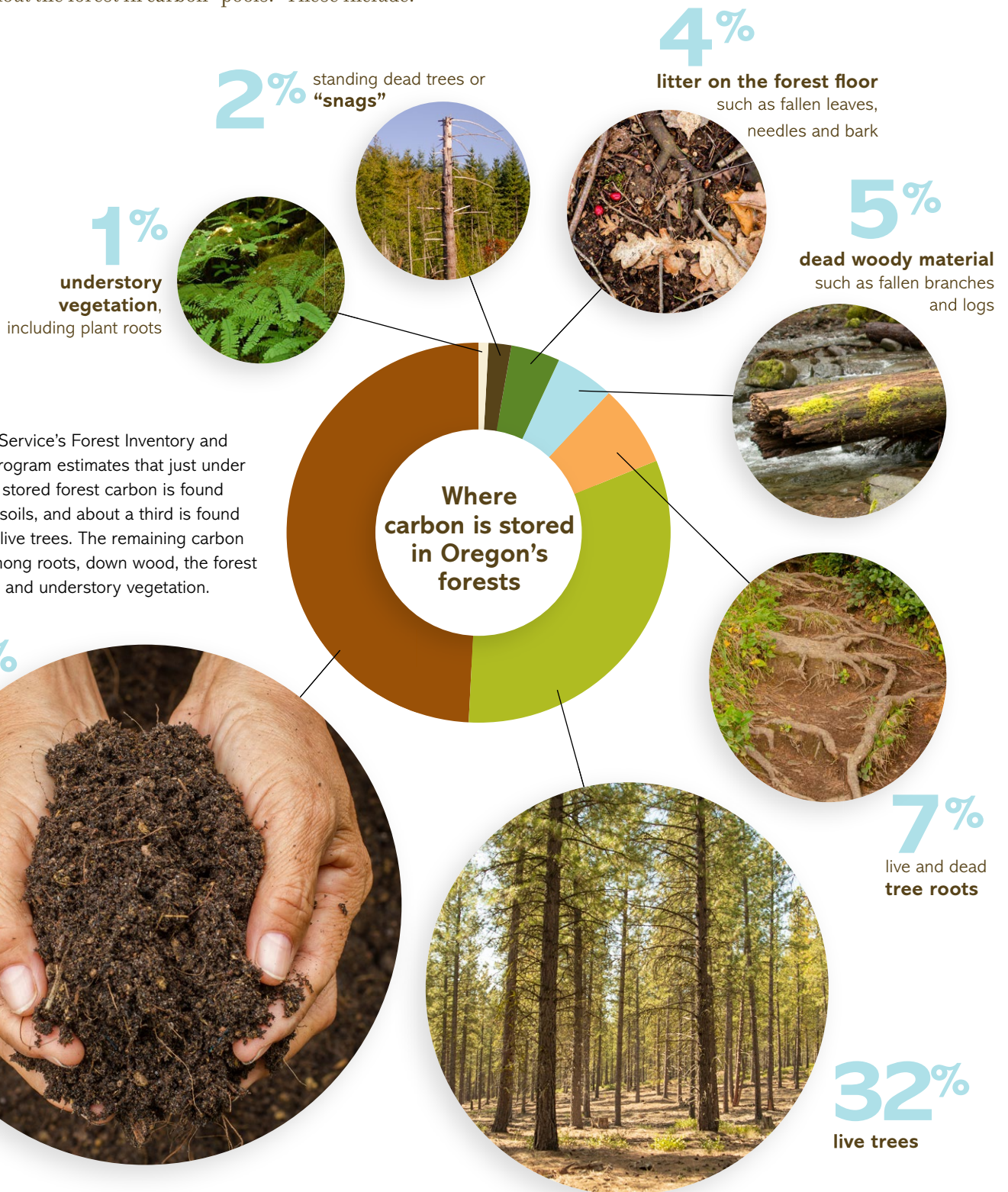
**Technical editors:** Mike Cloughesy, Oregon Forest Resources Institute, and Edie Sonne Hall, Three Trees Consulting

**Other contributors:** Glenn Christensen, U.S. Forest Service Pacific Northwest Research Station; David Ford, L & C Carbon; Bruce Lippke, University of Washington (retired); Maureen Puettmann, WoodLife Environmental Consultants, LLC; and Sheldon Zakreski, The Climate Trust.



# Carbon in OREGON'S FORESTS

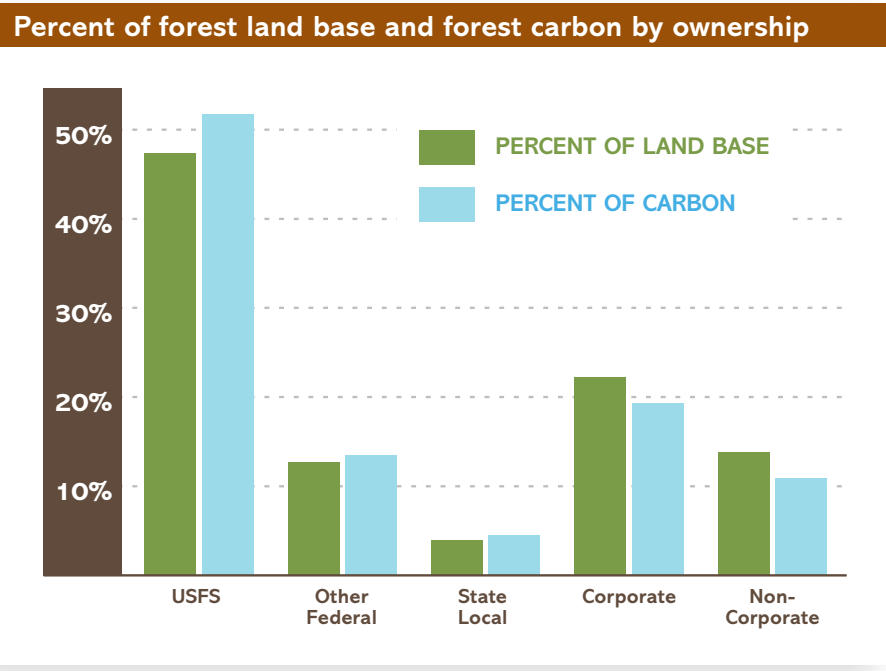
Through the process of photosynthesis, forests naturally sequester carbon dioxide from the atmosphere and store it as solid carbon. Stored carbon is found throughout the forest in carbon “pools.” These include:



The U.S. Forest Service's Forest Inventory and Analysis (FIA) Program estimates that just under half of Oregon's stored forest carbon is found belowground in soils, and about a third is found aboveground in live trees. The remaining carbon is distributed among roots, down wood, the forest floor, dead trees and understory vegetation.

With the help of measurements taken in the field, scientists can estimate the amount of carbon physically present in Oregon's forests by the pool where it's located, such as the amount of carbon stored in live trees. Total forest carbon is the sum of the carbon stored in all of a forest's carbon pools.

Carbon can move between various forest pools and eventually be released back into the atmosphere in a process known as "carbon flux." That means that although forests amass large quantities of carbon as trees grow, they don't store carbon indefinitely. When trees die and start to decay, for instance, they release carbon.



### HOW MUCH CARBON IS STORED IN OREGON'S FORESTS?

The most recent comprehensive analysis of how much carbon is stored in Oregon's forests was conducted by the U.S. Forest Service's Forest Inventory and Analysis (FIA) Program at the Pacific Northwest Research Station, in partnership with the Oregon Department of Forestry (ODF). It used field measurements taken between 2001 and 2016.

For the 10-year reporting cycle between 2007 and 2016, FIA estimates there were approximately 3.2 billion metric tons of carbon stored on both public and privately owned Oregon forestland in all carbon pools, including forest floor and soils, as shown in the graphic on the previous page.

### HOW MUCH CARBON ARE OREGON'S FORESTS SEQUESTERING?

In addition to measuring the carbon stored in the various forest pools, the FIA-ODF carbon inventory for Oregon also estimated the flux, or change, in each of the pools. Flux in the positive direction is called sequestration, while a negative flux is called emissions. As shown

in the chart (below), the estimated total net flux in Oregon is 30.9 million metric tons of carbon dioxide equivalent per year. This rate of forest carbon sequestration is the highest of the western states, and one of the highest in the country.

CARBON POOL	NET FLUX <i>million metric tons CO<sub>2</sub> equivalent</i>
Aboveground live	<b>31.6</b>
Aboveground dead	<b>-7.0</b>
Belowground live	<b>6.3</b>
Belowground dead	<b>-0.3</b>
<b>VEGETATION NET FLUX</b>	<b>30.5</b>
Forest floor	<b>0.6</b>
Soil organic C	<b>-0.2</b>
<b>TOTAL FOREST NET FLUX</b>	<b>30.9</b>

Scientists estimate carbon sequestration as carbon dioxide equivalents, in order to compare it with carbon dioxide emissions. One ton of carbon equals 3.667 tons of carbon dioxide. The U.S. Energy Information Administration estimates that in 2016 Oregon's carbon dioxide emissions from burning fossil fuels was 37.9 million metric tons. Thus, Oregon's forests sequestered more than 90% of the carbon that was emitted in the state from burning fossil fuels.

There is a close relationship between the proportion of Oregon forestland that falls under each type of ownership and how much carbon is stored there. For instance, the national forests, which are managed by the U.S. Forest Service and account for just under half of Oregon's forests, are storing slightly more than half of the state's forest carbon.



# MAXIMIZING forests' carbon-storing POTENTIAL

Photosynthesis enables trees to sequester a significant amount of carbon from the atmosphere, storing between 450 and 650 metric tons of carbon in the earth's forests and between 1,500 and 2,500 metric tons in soils, respectively.

For this reason, scientists around the world have been studying the role forests can play in mitigating climate change. The Intergovernmental Panel on Climate Change, a United Nations body responsible for assessing international science related

to climate change, has recognized the importance of using sustainable forest management practices that enhance forests' natural abilities to sequester carbon, as well as the increased use of wood products to help reduce carbon dioxide emissions.

Given the capacity of forests to capture and store carbon in the ecosystem and wood products, the timber industry is frequently discussed as a critical component of reducing atmospheric carbon. And Oregon – with its abundant, fast-growing forests and status as the top U.S. producer of softwood lumber and plywood – is well situated to contribute.

Oregon's managed forests already sequester and store significant amounts of carbon, but there are a number of ways they can further contribute to reducing atmospheric

## The potential solutions – forest sector carbon cycle

There are many ways Oregon's forest sector, the part of the state economy that's derived from forests, can be part of the solution in the fight against climate change.



carbon. These include preventing the conversion of forestland to other uses, such as housing or other urban development, as well as decreasing the risk of high-severity wildfires and insect or disease outbreaks that can kill large numbers of trees.

Planting trees to create more forests would help take even more carbon dioxide out of the atmosphere. Active forest management aimed at improving a forest's overall health and productivity, as well as resilience to wildfires, can help it capture and store even more atmospheric carbon. Letting trees grow to their peak carbon storage age before harvest can also increase the carbon stored in existing forests and forest products, although there would be financial trade-offs with this strategy for landowners who primarily manage their forests for timber production.

## ENHANCING FOREST CLIMATE MITIGATION

The United Nations' Intergovernmental Panel on Climate Change, and its Food and Agriculture Organization, make a number of recommendations based on the latest scientific research regarding ways forests can help us sequester more carbon and reduce carbon dioxide emissions. These include:

- Prevent deforestation by ensuring forests aren't converted to housing or other development.
- Manage forests to store more carbon long-term, by reducing their vulnerability to threats that can cause mass tree mortality and increase forest carbon dioxide emissions, such as drought, insects and wildfire.
- Expand forestland by returning deforested areas to forests.
- Enhance forest carbon sequestration through forest management while producing wood products that can be substituted for materials that require more energy and carbon dioxide emissions to produce, such as concrete and steel.
- Use mill waste and woody debris, also known as biomass, to produce renewable domestic energy.

## ATMOSPHERE

REDUCE  
EMISSIONS  
FROM  
FOREST



Reduce deforestation/  
degradation from wildfire, etc.

REDUCE  
FOSSIL FUEL  
EMISSIONS

FOSSIL  
FUEL 



Use biomass for energy,  
replacing fossil fuel



Use wood products



Half the dry weight of wood is carbon removed from the atmosphere by trees as they grow. That means using wood products in place of materials that don't store carbon and take more energy to produce can help combat climate change.

## The role of **WOOD** **PRODUCTS** in carbon storage

In fact, wood products derived from sustainably managed forests, where the amount of timber harvested doesn't exceed growth, can store more carbon in the final product for decades than was released when they were harvested and manufactured. Wood products that store carbon long-term include those used for home and other building construction, such as lumber and plywood, the two most commonly made wood products in Oregon.

In addition to the net 30.9 million metric tons of carbon dioxide equivalent



sequestered in our state's forests each year, the *Carbon in Oregon's Managed Forests* report estimates that the lumber and plywood manufactured in Oregon each year contain an estimated 10.2 million metric tons of carbon dioxide equivalent. Another 8.4 million metric tons of carbon dioxide equivalent is stored each year in products such as particleboard and hardboard, which are made with the wood residuals left over after milling logs into lumber. The total carbon sequestered in Oregon by our forests and the wood products made here is estimated to be 49.5 million metric tons of carbon dioxide equivalent each year.

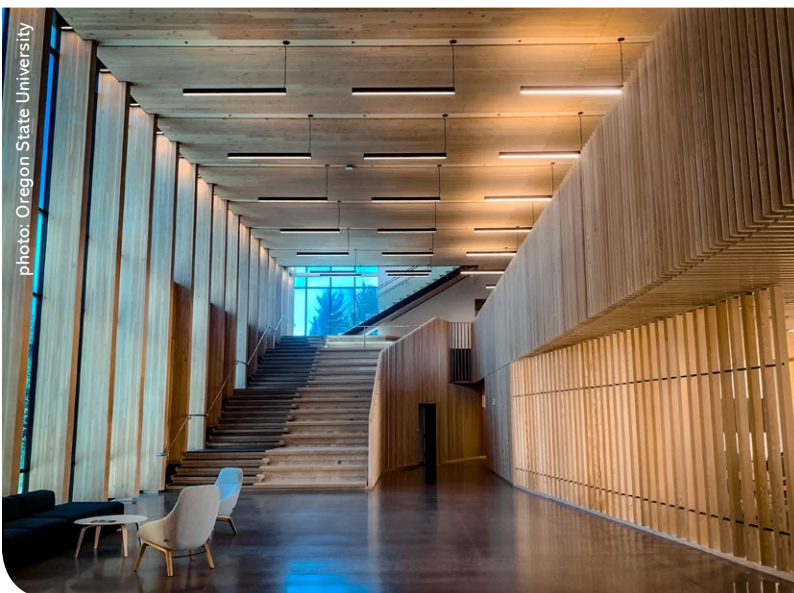


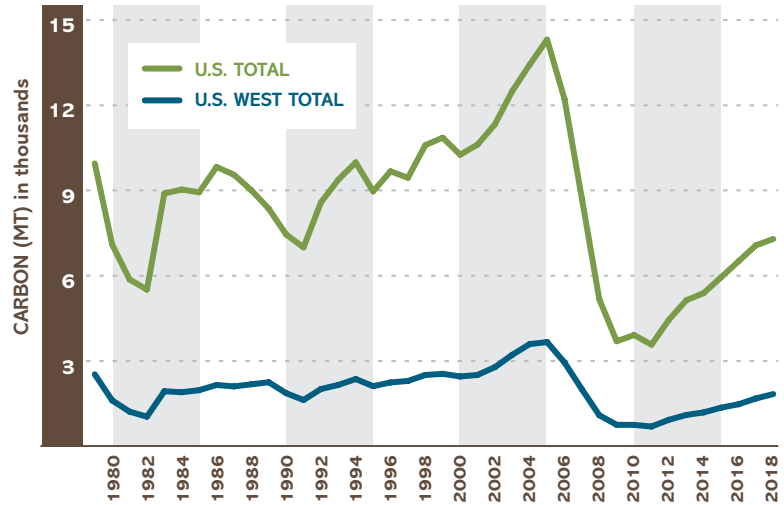
photo: Oregon State University

### A SUSTAINABLE BUILDING MATERIAL

Wood performs well in life cycle assessments (LCAs), a method of tracking the overall environmental impact of a product, from the extraction of the raw materials used to make it through to the product's disposal. LCAs have shown that making wood products typically consumes far less water and requires far less energy, and therefore generates fewer carbon emissions, than producing other equivalent construction materials. For that reason, wood is increasingly being recognized as the material of choice for sustainable building projects. This includes constructing larger and taller buildings, such as Oregon State University's Peavy Hall (pictured at left), using engineered wood products in place of or in combination with concrete and steel.



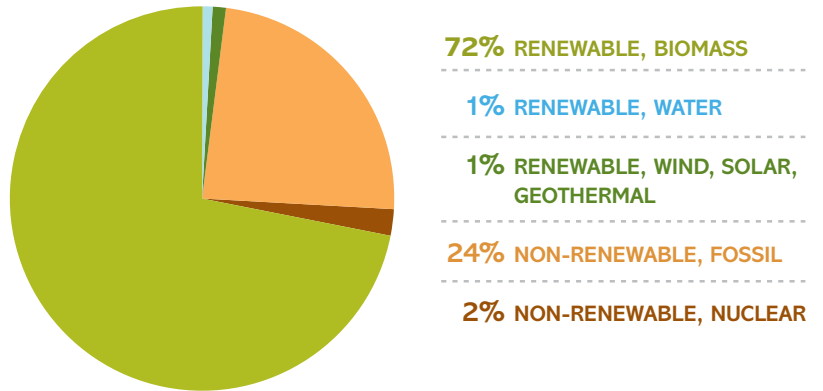
## Annual new carbon storage for single-family housing stock



Source: U.S. Census 2019

Most single-family homes in the U.S. are built with wood. That means when housing construction is on the upswing, the total amount of carbon stored in residential structures also increases. The carbon storage associated with total single-family housing starts annually from 1979 to 2018 ranged from 3.6 to 14.6 million metric tons nationally.

## Energy sources for softwood lumber production in the Pacific Northwest



One advantage of wood from a carbon emissions standpoint is that manufacturing wood products requires less energy from cradle to gate than other materials. For Pacific Northwest lumber mills, most of that energy comes from renewable sources, primarily from using wood residuals from the milling process to generate biomass energy.



## Case study:

### ALBINA YARD

The Albina Yard commercial office building in Portland is among a growing number of nonresidential structures in Oregon constructed using mass timber products such as cross-laminated timber (CLT). The four-story, 16,000-square-foot building, which was built in 2015 using CLT and glulam beams manufactured in Oregon, stores 80.5 metric tons of carbon, the equivalent of offsetting 295 metric tons of carbon dioxide emissions.





photo: Stacy McNeil, Green Diamond Resource Company

## GREEN DIAMOND RESOURCE COMPANY

forestland near Klamath Falls is being managed for carbon sequestration and storage as part of a registered carbon offset project.

Forests' vital role as a natural mechanism to remove and store carbon from the atmosphere makes them a crucial part of mitigating climate change. U.S. forests and associated wood products currently

Sustainably managing forests has been recognized as a relatively cost-effective strategy for offsetting greenhouse gas emissions. Nature-based solutions can help absorb about a third of the carbon pollution produced in the U.S., according to recent research led by The Nature Conservancy. These solutions include reforestation, practices that improve soil health, and forest carbon management.

# MARKETS for forest carbon

capture and store 16% of the country's annual carbon dioxide emissions from burning fossil fuels. Carbon markets that incentivize landowners to take steps through carbon offset projects that increase carbon storage on their forests – while providing a range of social and environmental co-benefits such as wildlife habitat – help take advantage of these forests' climate mitigation abilities.

U.S. forests have the potential to store even more carbon through enhanced forest management practices. America's private, family-owned forestlands offer some of the greatest opportunities to sequester and store more carbon. By managing just 20% of family-forest acres in the U.S. with practices that increase carbon sequestration by 2030, approximately 3.5 trillion metric tons of carbon dioxide could be sequestered by the end of the century.



photo: Justin Kostick, Green Diamond Resource Company

## TYPES OF CARBON MARKETS

There are three types of carbon markets used across the U.S. to mitigate climate change:

**Compliance carbon markets** are marketplaces where regulated carbon emitters obtain and surrender emissions permits, or allowances, to meet predetermined regulatory greenhouse gas reduction targets. In the case of cap-and-trade programs, participants can trade allowances to make a profit from unused allowances or to meet regulatory requirements. In Oregon, the Confederated Tribes of Warm Springs and Green Diamond Resource Company both operate registered and approved forest carbon offset projects under California's cap-and-trade program.

**Voluntary carbon marketplaces** involve companies purchasing offsets with the intent to resell them or meet carbon-neutral or other environmental claims, or airlines using them under a United Nations-mandated program to offset carbon emissions from international flights. Voluntary offsets are primarily driven by private corporations seeking to achieve corporate social responsibility objectives. In Oregon, the city of Astoria operates a registered and approved voluntary forest carbon offset project within its watershed.

**Incentive programs** encourage forest landowners to manage their forests to enhance carbon sequestration and storage. These include programs run by the federal government's Natural Resources Conservation Service and a new program being developed by the American Forest Foundation and The Nature Conservancy. Called the Family Forest Carbon Program, it incentivizes landowners to adopt specific forest management practices that have been scientifically demonstrated to increase carbon sequestration, improve forest health and provide other important ecosystem benefits.

## OREGON FOREST CARBON OFFSET PROJECTS

A number of public and private Oregon forest landowners already participate in forest carbon markets. Here are three examples of forest carbon offset projects in the state:

The **city of Astoria** has owned and managed its forested watershed since the 1950s, primarily to provide fresh drinking water to its residents and to generate timber harvest revenue that supports city services. In 2014 the city adopted a revised forest management plan for the watershed that began its commitment to sequester carbon beyond all legal and regulatory requirements, essentially trading off some timber revenue for carbon revenue. That same year, the city initiated a voluntary improved forest management plan under the American Carbon Registry. To date, the project has produced 260,000 carbon offsets that have been purchased by The Climate Trust.

**Green Diamond Resource Company** registered two California Air Resources Board improved forest management compliance projects in 2015, on about 575,000 acres of

forestland near Klamath Falls that had been heavily logged by the previous owners. These projects represent a long-term commitment to improve forest health, increase productivity, and enhance resiliency to pest outbreaks and wildfires while storing greater amounts of carbon over the next 100 years. To date, nearly 1 million carbon offsets have been generated by these projects.

The **Confederated Tribes of Warm Springs** in central Oregon decided to pursue a forest carbon offset project on 24,000 acres of the 440,000-acre Warm Springs Reservation forest through California's cap-and-trade program in 2015. A small parcel burned during the initial stages of project development, reducing its size to 22,000 acres. To date, 2.7 million carbon offset credits have been issued to this project.





## ABOUT THE OREGON FOREST RESOURCES INSTITUTE

The Oregon Legislature created the Oregon Forest Resources Institute (OFRI) in 1991 to advance public understanding of forests, forest management and forest products, and to encourage sound forestry through landowner education. A 13-member board of directors governs OFRI. It is funded by a portion of the forest products harvest tax.



**Oregon Forest  
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FISCAL YEAR 2022-23



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# ANNUAL REPORT





## The future looks bright

This fall marks the end of my term as chair of OFRI's board of directors. During my years as an OFRI board member and board chair, I've seen the Institute and Oregon's forest products industry continue to evolve and find new ways of doing business amid the challenges we face in today's world.



My tenure as board chair spanned the worst of the COVID-19 pandemic and the fallout from the devastating 2020 Labor Day wildfires, which both had impacts on Oregon's forest-related businesses and industries.

But it was also a time when, in an historic coming-together, a group of forest products companies collaborated with conservation organizations on an agreement called the Private Forest Accord. That agreement led to expanded forest habitat protections for fish and amphibians under Oregon law.

Through it all, OFRI has remained committed to its mission to inform Oregonians about the important issues affecting our forests.

Over the past year, OFRI's landowner and public education programs have helped forest landowners, natural resource professionals and the public learn about recent updates to the Oregon Forest Practices Act as a result of the Private Forest Accord.

Our K-12 education program continues to rebound from the pandemic, providing professional development for teachers and supporting classroom and field forest education programs for students.

OFRI is also wrapping up the extensive process of updating our strategic plan, which involved soliciting feedback from our stakeholders and the public on the best ways to provide high-quality forest education programs to Oregonians.

These are just a few of the reasons why, as I prepare to step down as board chair, I'm hopeful for the future of both OFRI and the industry it supports. And for those who support OFRI's core mission to educate Oregonians about critical issues related to forests and forest management, I want to extend a heartfelt thank you.

—Jerry Anderson, chair, OFRI board of directors

# OFRI by the numbers

## MAJOR REPORTS

- *Finding Common Ground* – a special report about the Private Forest Accord agreement to update Oregon's forest protection laws

## NEW OR UPDATED PUBLICATIONS

- *Adventure Awaits* – an informational pamphlet for outdoor recreationalists exploring the many benefits of Oregon's working forests
- *Inside Oregon's Forests* – an updated forestry curriculum for high school students
- *Nature Notes* – a student workbook for outdoor school participants covering topics related to natural resources
- *Oregon Forest Facts 2023-24 Edition* – an updated booklet containing the latest statistics and information on Oregon's forests and forest products industry
- *Wildlife in Managed Forests: Forest Practices Act Reference Series* – an informational pamphlet for forest landowners outlining state and federal protections for a variety of forest-reliant bird species

## DIGITAL

- Blog (10,653 visits)
- Facebook (11,356 "likes")
- Instagram (1,485 followers)
- X – formerly Twitter (1,868 followers)
- LinkedIn (449 followers)
- YouTube (2,974,000 views)

## VIDEO

- 2023 educational advertising: "Love This Place" and "Get to Know the Coho"
- Informational video: "About the Oregon Forest Resources Institute"

## EVENTS

- Career-related presentations/events for students: 43
- Community outreach presentations: 14 (with 660 total participants)
- Conference booth displays: 13 (with 2,982 total participants)
- Conferences or forums: 5 (with 963 total participants)
- Field forestry programs: 13,613 student attendees statewide
- Forest education professional development workshops: 865 teacher attendees
- Forest tours: 1
- Landowner workshops: 65 (with 4,702 total participants)
- Oregon Envirothon 2023 (statewide high school natural resource knowledge competition): 90 student attendees representing 12 schools

- OFRI-supported student forest field trips: 257





# PUBLIC EDUCATION

OFRI works to advance public understanding of the social, environmental and economic importance of Oregon's forests. For more information, visit [OregonForests.org](http://OregonForests.org).



## Report, ad campaign highlight new laws

OFRI published a new special report and produced two new educational advertisements focused on how the Private Forest Accord, an historic agreement between the forest products industry and conservation groups, led to the most significant changes to the Oregon Forest Practices Act in 50 years.

The 28-page report, *Finding Common Ground*, highlights major changes to the Forest Practices Act designed to avoid,

minimize and mitigate the effects of logging and other forest management activities on native fish and amphibian species.

The educational advertising campaign featured two new video ads about how Oregonians came together to agree on expanded stream habitat protections for coho salmon and other threatened aquatic wildlife. The ads were broadcast on digital and traditional media across the state.

Below, from left:

In 2022-23, OFRI's public education program focused on informing Oregonians about updated state forestry protections aimed to help better protect aquatic wildlife.

OFRI's new *Finding Common Ground* special report detailing new forest laws that expand stream habitat protections includes diagrams illustrating the updated regulations.

The OFRI board hosted a public tour of Hampton Lumber forestland near Grand Ronde, where experts explained recent updates to the Oregon Forest Practices Act.

"Love This Place," one of the new educational advertisements OFRI produced about changes to Oregon's forest protection laws, won a gold award from the Worldfest Houston Awards and a silver from The Telly Awards.

## OREGON FOREST FACTS UPDATED

OFRI released a new edition of *Oregon Forest Facts*, a pocket-size booklet containing the latest statistics about Oregon's forests and forest products industry. In addition to stats on Oregon forest landownership, timber harvest levels and statewide forest sector employment, the 2023-24 edition of *Oregon Forest Facts* includes new information about the economic impacts of the 2020 Labor Day fires and updates to Oregon's forest practice regulations following the Private Forest Accord agreement.

Data from the *Oregon Forest Facts 2023-24 Edition* is also available online at [OregonForestFacts.org](http://OregonForestFacts.org).



## PAMPHLET EXPLORES BENEFITS OF OREGON'S WORKING FORESTS

*Adventure Awaits*, a new, colorfully illustrated pamphlet designed by OFRI specifically for recreational visitors to Oregon's forests, explores the many environmental, social and economic benefits forests provide to Oregonians.

The brochure-size pamphlet won a gold award from the Association for Communication Excellence, and serves as a primer to Oregon's wood-producing forests, where visitors are likely to encounter recent timber harvests and other forestry activities. It explains modern forest management and logging practices, as well as laws and regulations that protect wildlife habitat, drinking water sources and other vital natural resources.



## VIDEO EXPLAINS OFRI MISSION AND PROGRAMS

OFRI updated a short video narrated by its staff that explains the Institute's mission and three core programs. In the video, each staff member details different aspects of OFRI's efforts to support Oregon's forest products industry through educational programming that informs K-12 teachers and students, landowners and the general public about forests, forest management and forest products. The video can be viewed on OFRI's [OregonForests.org](http://OregonForests.org) website and its YouTube channel.

## DIGITAL REACH

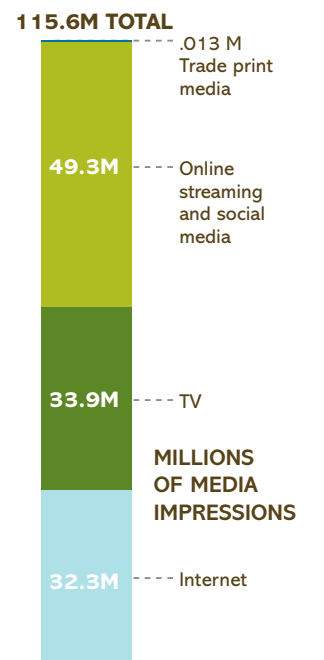
Average monthly web visits	17,755
Total blog visits	10,653
Total YouTube views	2,974,000
Facebook "likes"	11,356
X (Twitter) followers	1,868
Instagram followers	1,485
LinkedIn followers	449

### FY 2022-23

OFRI continues to expand its social and digital media presence with five active websites, a blog, a YouTube channel, and a growing number of followers on Facebook, X (formerly Twitter), Instagram and LinkedIn. Most recently, the Institute started a Threads account.

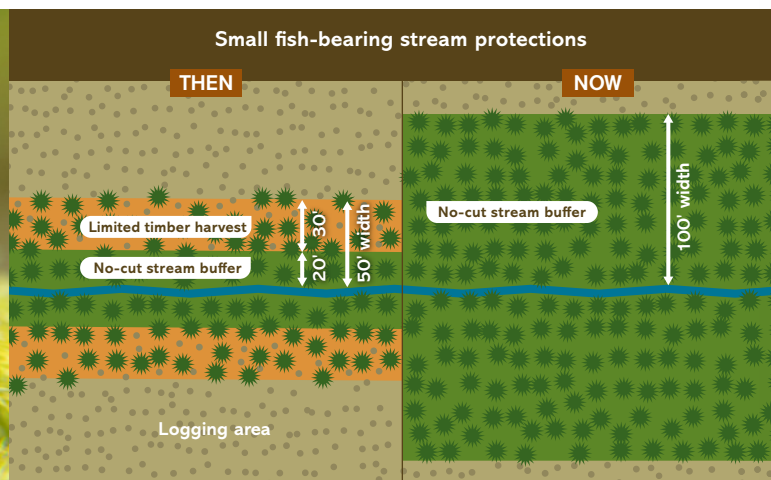


## EDUCATIONAL ADVERTISING IMPRESSIONS



### FY 2022-23

OFRI's annual educational advertising campaign includes trade print media, TV and online placements, as well as spots on digital streaming services and social media.





# K-12 EDUCATION

OFRI provides curriculum, classroom materials, workshops and opportunities for field trips to increase forest literacy among K-12 teachers and students. For more information, visit [LearnForests.org](http://LearnForests.org).

## Natural resources education conference highlights research

After two years of virtual programming, OFRI held its Natural Resource/Career Technical Education Conference for Oregon high school teachers in person once again, at The Oregon Garden in Silverton.



More than 100 teachers from across the state attended the two-day conference aimed at connecting educators and helping them receive professional development in forest and natural resource education. It featured a new format in which researchers from Oregon State University paired up with community college faculty to deliver conference sessions together. The researchers presented their findings, and community college faculty members

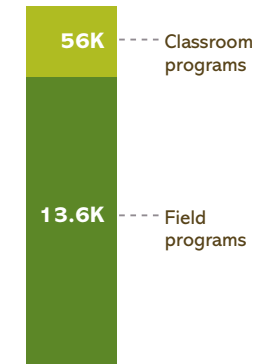
modeled lessons aligned with that research. Topics covered in the sessions included forest pollinators, black bear denning habits and forest fire recovery.

OFRI worked closely with Oregon State University's Oregon Natural Resources Education Program to organize the conference, which was designed primarily for teachers whose schools offer an accredited natural resource education program.

### STUDENTS REACHED

Number of student participants statewide

69.7K TOTAL



FY 2022-23

OFRI sponsors classroom forest education programs through Talk About Trees, and field forest education programs through the Oregon Garden Natural Resources Education Program and Forests Today & Forever, among others. Additionally, OFRI reimburses schools for bus transportation for forest field trips.

### KID-FRIENDLY SITE TEACHES ABOUT FIRE PREVENTION

To help children learn about fire prevention, OFRI created a kid-friendly website called *Fire Among Us*.

The site, which is targeted to older elementary school and middle school students, was developed by OFRI with assistance from K-12 educators and fire prevention experts. Amusing comics with talking bears and trees, along with short videos, are used to cover topics such as the fire triangle, how to put out a campfire properly, and using fireworks safely.



### HIGH SCHOOL FORESTRY CURRICULUM UPDATED

OFRI released a new digital edition of its popular high school curriculum, *Inside Oregon's Forests*.

The updated curriculum is designed to help students build a deep understanding of Oregon's forests through engaging, standards-based lessons. It's organized around seven modules that focus on topics and concepts from OFRI's forest education conceptual framework, the *Oregon Forest Literacy Plan*, which was updated in 2022.

The new edition of *Inside Oregon's Forests* includes updates for cultural relevance and inclusiveness; revised and updated background information, especially related to climate change and fire; updated maps, student page resources and web links, plus additional resources to support the lessons; and updated connections to state standards for science, English language arts and math.



### OREGON ENVIROTHON RETURNS TO FULLY IN-PERSON EVENT

The annual Oregon Envirothon, a natural resources knowledge competition that OFRI hosts at The Oregon Garden in Silverton, shone through an overcast day on May 5.

This year, the event was held fully in person, with more than 90 student participants from high schools across Oregon. The competition tested the skills of small teams of students in various ecological disciplines, including aquatics, forestry, wildlife, and soils and land use. Students also gave oral presentations

and were tested on their knowledge of this year's current issue, "Adapting to a Changing Climate."



The Rogue Pack Alpha team from Medford's Logos Public Charter School won the 2023 Oregon Envirothon, advancing to the NCF-Envirothon. They placed 13th out of 49 teams at the larger competition, which was held July 23-29 in New Brunswick, Canada.

Below, from left:

(Previous page) High school students from across Oregon tested their natural resources knowledge and skills in the 2023 Oregon Envirothon competition organized and sponsored by OFRI.

(Previous page and this page) OFRI offers an outdoor school for Marion County students as part of a coalition of organizations dedicated to environmental education.

To support the PAWS (Plants Animals Water Soil) outdoor school, OFRI produced the *Nature Notes* student workbook, which features a variety of activities to help students learn about the natural environment.



### BUG EXPLORATION

Find a bug to look at, and investigate its appearance.

WHAT TYPE OF MOUTH PARTS DOES YOUR BUG HAVE?			
Sponging part	Chewing (beetle)	Piercing-sucking (mosquito)	Siphoning
WHAT TYPE OF FOOD DOES YOUR BUG EAT?			
Bugs	Leaves	Pollen or nectar	Animals
HOW DOES YOUR BUG GET AROUND?		WHAT DOES THE SURFACE LOOK LIKE?	
Butterfly	Worm	Ant	Insect





◀ **Jerry Anderson**  
Chair  
Manulife Investment  
Management



**Dan Newton** ▶  
Vice Chair  
Newton Forestry LLC



◀ **Jennifer Beathe**  
Starker Forests Inc.



**Paul Betts** ▶  
Miami Alternatives LLC



◀ **Gordon Culbertson**  
Whitewater Forests LLC  
(small woodland owner)



**Dr. Thomas DeLuca** ▶  
Oregon State University  
College of Forestry  
(dean)



◀ **Dr. Kristopher Elliott**  
Oregon State  
University Extension  
(public representative)



**Mark Giustina** ▶  
Giustina Land & Timber



◀ **Mike Hicks**  
IAM-AW District  
W24 (employee  
representative)



**Garren Hitner** ▶  
Century Forest  
Management



◀ **Kristin Rasmussen**  
Hampton Lumber &  
Family Forests



**Madeleine  
Thompson Rudolph** ▶  
Thompson Tree Farm



◀ **Brian Trenholm**  
Weyerhaeuser

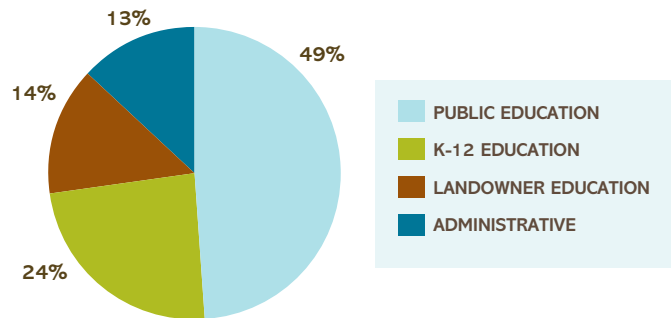


**Kyle Abraham** ▶  
Oregon Department  
of Forestry (liaison)

## OFRI board of directors

OFRI is governed by a board made up of 11 voting members appointed by the state forester, plus two non-voting members. Board members represent timber producers, small woodland owners and forest products industry employees. Non-voting members include a public representative and the dean of the Oregon State University College of Forestry. An Oregon Department of Forestry liaison assists the board.

### ADMINISTRATIVE COSTS VS. PROGRAM COSTS



In each of the past 21 years, OFRI has received the state controller's "Gold Star" award for timely and accurate financial reporting.

### OFRI STAFF

- Inka Bajandas**, Public Outreach Manager
- Jordan Benner**, Senior Manager of Public Outreach
- Norie Dimeo-Ediger**, Director of K-12 Education Programs
- Rikki Heath**, Environmental Educator
- Jim Paul**, Executive Director
- Kathy Storm**, Senior Manager of Business Operations
- Julie Woodward**, Director of Forestry

**OFRI MISSION STATEMENT** The Oregon Forest Resources Institute supports and enhances Oregon's forest products industry by advancing public understanding of forests, forest management and forest products.



**Oregon Forest  
Resources Institute**

9755 SW Barnes Road, Suite 210  
Portland, OR 97225  
971-673-2944  
OregonForests.org  
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