Ir	Industrial Forest Ownership Analysis by the Coast Range							
Asso	Association (Data from ProPublica/OPB/Oregonian ownership reporting – 2001)							
Learn more at www.coastrange.org								
SIGNIFY						vs. production	Total	
Ranking	CODE)	Name	Address	City	State	driven)	(state)	Also Known As
1	1	Weyerhaeuser Company	220 Occidental Ave S.	Seattle	WA	Wall Street	1,755,069	
2	2 2	Roseburg Forest Products	3660 Gateway	Springfield	UR	Iraditional	466,074	Hancock Timber Pesource
3	3 3	Hancock Natural Resource Group	1700 SE Mill Plain Blvd #suite 180	Vancouver	WA	Wall Street	304,934	Group, Inc.; Hancock Agricultural Investment Group: Nestucca Forests LLC: Salmon Timberlands; Timber Growth Master LLC
	4	Selleca	F 0 B0X 10203	Lugene	UK	Traditional	172,948	L&C Tree Farms LLC: Lower
5	5 5	Greenwood Resources	1500 SW 1st Ave #1150	Portland	OR	Wall Street	166,758	Columbia Tree Farms
6	5 18	Stimson Lumber	520 SW Yamhill #700	Portland	OR	Traditional	156,405	
7	12	Campbell Global LLC	One SW Columbia Ste 1700	Portland	OR	Wall Street	150,336	Pacific W Timber Co. LLC; Franklin-Clarksin
8	52	Cascade Timber Consulting	PO Box 446	Sweet Home	OR	Traditional	144,410	
9	6	Forest Investment Associates	15 Pleamont RD NE Bldg #15-1250	Atlanta	GA	Vvall Street	137,714	PH TIMber LLC
10	11	Guisidila	PO Box 1127	Eugene	OR	Wall Street	135,562	
12	2 9	Rayonier Timber CO	PO Box 161139; 1 Rayonier Way, 19950 7th AVE ne st#200	Mobile; Poulsbo	AL; WA	Wall Street	129,373	Olympic Resource Management, ORM
13	8 8	South Coast Lumber Co.	PO Box 670	Brookings	OR	Traditional	116,495	Chetco Resources; Rogue Resources
1/	10	Hampton Affiliates	9600 SW/ Barnes Rd Ste #200	Portland	OR	Traditional	101 400	Agency Creek Management Co; Mid-Valley Resources Inc
15	13	Starker Forests Timber Co	PO Box 809	Corvallis	OR	Traditional	89.965	
16	10	Moore Mill & Lumber Co.	PO Box 277	Bandon	OR	Traditional	46.932	
17	15	Murphy Timber Investment	2350 Prairie Rd	Eugene	OR	Traditional	46.650	
18	3 20	Silver Butte Timber Co.	PO Box 4	Riddle	OR	Traditional	46,248	5
19	16	Siskiyou Timber	7135 Sportsfield drive NE	Seattle	WA	Wall Street	38,422	2
20	17	Port Blakely Tree Farms	8133 River Dr SE	Tumwater	WA	Traditional	32,374	
21	19	Evenson Logging Co.	PO Box 127	Clatskanie	OR	Traditional	28,852	
22	2 21	Miami Corporation	410 N. Michigan Ave ste# 590	Chicago	IL	Traditional	25,568	5
23	3 23	Green Diamond Resource Company	1301 5th Ave 2700	Seattle	WA	Traditional	20,216	
24	44	Timberlands LLC/Catchmark	ATTN: JOHN CAPRIOTTI	Mill Other	0.0	Wallstreet	18,038	
20	30	Frank Timber Resources Inc	PO Box 79		OR	Traditional	16,202	
20	30			Lyons		Traditional	14,200	
27	53	Rogers V Follensbee Timber	707 SW Washington St STE 1300	Portiand		Traditional	12,427	Thompson Tree (Donton)
20	21	Gales Tree Farm/Lumber Co.	1235 NL con West SLL	Louston		Mall Street	12,190	Thompson Tree (Benton)
23	24		PO Box 99	Lyons		Wall Street	9,554	
31	47	DR Johnson Lumber CO	PO BOX 66	Riddle	OR	Traditional	8.822	
32	29	Thompson Family Timber LLC	PO Box 538	Clatskanie	OR	Traditional	7,999	
33	3 25	LGB Timber/ Bear Creek	PO Box 51	Drain	OR	Traditional	7,292	2
34	28	Hull Oakes Lumber Co.	PO Box 40	Monroe	OR	Traditional	5,897	
	39	Pangaea Pacific Timberlands LLC	801 W 36th AVE	Eugene	OR	?	4,872	
	31	Doubletree	PO Box 1050	Mollala	OR	?	3,731	
	32	SDS CO LLC	50 D 100		0.0	?	3,634	
	33	Nyggard	PO BOX 100	vvarrenton	UR	I raditional	3,384	
	49	Ane Forests Oregon Inc	PO Box 1929			2	3,119	
	34	Swanson	PO Box 250			Traditional	2 855	
	35	Nystrom	25674 Cherry Rd	Monroe	OR	?	2,650	
	51	Sweet Home Timber Management	PO Box 600	Sweet Home	OR		2218	1
	48	Forever Green Forests LLC	PO Box 1758	Eugene	OR		2,199	
	36	Teevin Bros	PO Box 681			Traditional	1,657	·
	40	Zena Forests LLC	4550 N Oak			Traditional	1,355	
	41	Avison Lumber Co.	PO Box 419	Mollala	OR	?	1,208	
	43	Grimm Family	1215 NW Driftwood PI	McMinnville	OR	?	993	
	46	Back-Acres Tree Co LLC	501 N Graham St. STE#545	Portland	OR	Traditional	842	
	42	Ogle Forest LLC	PO Box 751	Neskowin	OR	Iraditional	675	
	50	Silver Creek Canyon LLC	HARD RIVER RD	Vereenie		0	597	
	45	HOICE TIMBER LLC	PU BU 127	vernonia	UK	1	462	

Best Practices: Understanding Timber Taxation To: The House Committee on Agriculture and Natural Resources From: Chuck Willer Executive Director Coast Range Association chuckw@coastrange.org

1. **Constant Inflation Adjusted Dollars**: Always require the Legislative Revenue Office to provide historic tax tables in inflation adjusted constant or real dollars.

2. **Cubic Volume**: When requesting or receiving timber volume data, require the data be in cubic volume and not Scribner board foot volume. Scribner volume was developed for measuring large saw timber logs not small diameter logs. For example, Weyerhaeuser reports timber production to investors only in cubic volume.

3. Timber Taxation: Comparing taxation between years requires looking at the total tax burden. For example, the phase out of the Severance/Privilege tax was accompanied by an increase in property taxation for industrial owners. Small woodlot owners continue to defer property taxes until timber harvest. Industrial owners now pay no severance/privilege tax at harvest and were supposed to pay higher property taxes. The combination of forest owner property taxes and any taxes at the time of harvest is the proper measure of the public's interest in timber production.

4. Property taxes are a result of multiplying the property tax rate of the taxing district times the assessed value of the parcel – subject to the rigmarole of adjustments due to Ballot Measures 5 and 50. In the shift toward industrial owners paying more property taxes, legislation required land values be set in Salem at the Department of Revenue. The published schedule of land values for 2021 is attached.

Question 1: Has the Legislature received a current map of the land values?

Question 1.1: Is a table available of the number of acres for each soil fertility level? **Question 1.2** Has the mapped soil fertility data been assessed for percent of industrial and non-industrial ownership per ownership type?

Question 1.3: Will Oregon make available to the public a geospatial database of the western Oregon's soil fertility data layer?

Question 1.4: Will Oregon release to the public an annual geospatial database of taxing districts with their tax rates?

Question 1.5: Does the assessed value of the forestland parcels make sense? An easy way to

assess the validity of the land values scheme is to compare current cubic volume growth for each land fertility zone to the zone's assessed value.

The land base of ownership types has changed since the 1960s, industrial owners have bought out or acquired from 750,000 to one million acres of non-industrial forestland.

Question 2: What is the historic **total tax burden per acre** of forestland for industrial owners and non-industrial owners?

Year	In	dustrial Owners	strial Owners Non-Industrial Owners			ers
	Total Taxes*	Acres Owned	\$/Acres	Total Taxes*	Acres Owned	\$/Acres
1960-69	?	?	?	?	?	?
1970-79	?	?	?	?	?	?
1980-89	?	?	?	?	?	?
1990-99	?	?	?	?	?	?
2000-09	?	?	?	?	?	?
2010-19	?	?	?	?	?	?

*Property taxes + Tax on timber harvested. Inflation adjusted dollars (BLS-CPI Calculator)

The quantity of taxation per acre of ownership is closely connected to the question of total taxation per cubic volume of harvest. A table of historic harvest volume per ownership type is required.

Question 3: What is the historic taxation per cubic volume harvested?

Year	Industrial Owners Non-Industrial Owners			ners		
	Total Taxes*	Volume Harvested	\$/Cubic Measure	Total Taxes*	Volume Harvested	\$/Cubic Measure
1960-69	?	?	?	?	?	?
1970-79	?	?	?	?	?	?
1980-89	?	?	?	?	?	?
1990-99	?	?	?	?	?	?
2000-09	?	?	?	?	?	?
2010-19	?	?	?	?	?	?

*Property taxes + Tax on timber harvested. Inflation adjusted dollars (BLS-CPI Calculator)



Department of Revenue Property Tax Division 955 Center St NE PO Box 14380 Salem, OR 97309-5075 www.oregon.gov/dor/timber

May 15, 2020

To Whom It May Concern:

ORS 321.216 requires that the Department of Revenue certify the specially assessed values of forestland to the counties on or before June 1 of each year. I, therefore, certify that the enclosed schedule contains the 2020-2021 per acre values of forestland in your county.

- These certified specially assessed values constitute the department's determination of the real market value, as of the assessment date for the tax year, of highest and best use forestland.
- These certified specially assessed values constitute the specially assessed values, as of the assessment date for the tax year, of designated forestland that is assessed under either ORS 321.354 in the land class for which the certification is being made for western Oregon or ORS 321.833 (formerly 321.812) for eastern Oregon.
- The 2020-2021 Maximum Specially Assessed Value (MSAV) was calculated using a three percent increase over last year's Assessed Value (AV) and is included in the table for your benefit.
- The 20% Specially Assessed Value (SAV) is for use on forestland that is assessed under 321.700 to 321.754 (Small Tract Forestland Option).
- The 20% MSAV value for the tax year beginning July 1, 2020 was calculated using a three percent increase over last year's 20% AV and is included in the table for your benefit.

The values in this certification are calculated based on the procedures set out by ORS 321.207 to 321.213 and OAR 150-321-0200.

2 N (-)

Paul Morrison, Manager Special Programs Unit Property Tax Division

Enclosure: Oregon Forestland Values for 2020 – 2021

OREGON FORESTLAND VALUES

FOR

JULY 1, 2020 – JUNE 30, 2021

WESTERN OREGON

	Forestlan	d Program	Small Tract Forestland Program		
Forestland Class	MSAV	SAV	20% MSAV	20% SAV	
FA	\$743.70	\$1,206.20	\$147.53	\$241.24	
FB	\$589.98	\$955.20	\$117.08	\$191.04	
FC	\$494.11	\$801.81	\$97.78	\$160.36	
FD	\$419.72	\$683.28	\$83.34	\$136.65	
FE	\$279.23	\$453.19	\$54.48	\$90.63	
FF	\$201.54	\$327.69	\$40.01	\$65.53	
FG	\$84.21	\$139.44	\$15.93	\$27.88	
FX	\$9.83	\$13.94	\$1.52	\$2.78	

EASTERN OREGON

	Forestland	d Program	Small Tract Forestland Program		
Forestland Class	MSAV	SAV	20% MSAV	20% SAV	
Eastern Oregon	\$84.21	\$146.07	\$15.93	\$29.21	

MSAV – Maximum Specially Assessed Value (Measure 50)

SAV – Specially Assessed Value (ORS 321.207)

20% MSAV – 20% Maximum Specially Assessed Value for qualified Small Tract Forestland Program properties (Measure 50)

20% SAV – 20% Specially Assessed Value for qualified Small Tract Forestland Program properties (ORS 321.722)

Comments from Chuck Willer Coast Range Association

"There is no better time for Oregon to reinstate a timber Severance tax than today!"

"OSB demand is expected to benefit the few companies that make the material, with Norbord, Louisiana-Pacific Corp., Koch Industries Inc.'s Georgia-Pacific, and Weyerhaeuser accounting for nearly 75 percent of North American production. MARCY NICHOLSON writing for Bloomberg. Nov 1, 2020

Home Depot's OSB price 2-23-2021: \$34.05 homedepot.com Weyerhaeuser share price 2-23-2021: \$34.64

Weyerhaeuser posts strong Q4 earnings

Sales for the fourth quarter 2020 **jumped 40%** to \$2.1 billion. Sales for fiscal 2020 **increased 15%** to \$7.53 billion. The company posted net earnings of **\$292 million for the fourth quarter 2020**. Net earnings for 2020 climbed to \$797 million.

The company said that it expects improved manufacturing costs across product lines and slightly higher sales volumes, primarily for lumber and engineered wood products.

Weyerhaeuser CEO Devin Stockfish:

Accessed 2-23-2021 from Weyerhaeuser.com See the company's investor relations page.

"Our teams delivered the highest wood products adjusted EBITDA on record,"

What this means: Earnings Before Interest, **Taxes**, Depreciation and Amortization. The company is making so much money it's paying down debt. High profits result from the company's ridiculous <u>tax exempt REIT</u> status and low property and harvest taxes in states like Oregon.

"achieved record low cost performance in lumber,"

What this means: The company is making record high Gross Earnings by keeping the screws tight on logging costs through the power of their dominant land ownership position. Logging contractors, log haulers, company loggers and the highly exploited reforestation workforce are not seeing benefits from the company's massive profits.

"and captured approximately \$100 million of operational excellence improvements across our businesses,"

What this means: Not only is the company not sharing its windfall profits with on the ground workers in

Oregon and elsewhere, they squeezed another \$100 million out of operations.

"we reduced gross debt by more than \$900 million,"

This is good. A better expenditure of company funds than the stock repurchase program currently burning through \$500 million authorized in 2019.

"implemented a new dividend framework,"
The ten largest stockholders of Weyerhaeuser:
The Vanguard Group, Inc.
T. Rowe Price Associates, Inc.
BlackRock Fund Advisors
Cohen & Steers Capital Management
SSgA Funds Management, Inc.
First Eagle Investment Management
Invesco Advisers, Inc.
Geode Capital Management LLC
Fidelity Management & Research Co
Northern Trust Investments, Inc.

"As we embark on 2021, we are encouraged by the macroeconomic tailwinds that continue to bolster strong U.S. housing and repair and remodel markets,"

What this means: There is no better time as now to tax Weyerhaeuser and other big timber companies by returning to the prior level of Oregon's severance taxes of the early 1990s. The timber industry can more than afford their fair share of taxes.

"and we remain focused on creating value for shareholders through our unrivaled portfolio of assets, industry-leading operating performance and disciplined capital allocation," What this means: The company is proud to continue its mission: *sending wealth from Oregon's forests to the richest U.S. households*. The public's welfare is not the company's concern.

There is only one conclusion: There is no better time for Oregon to reinstate a timber Severance/Privilege Tax. The timber industry is consolidated into major players with huge market power. Every tax dollar not collected is simply another dollar going to the wealthiest households in the U.S. or foreign investors. Industrial Forest Owners Can Pay More Taxes: Here's Why

A Report Coast Range Association February 20, 2021

6

The Oregon Timber Industry

Questfor Efficiency

Forest investors generally subcontract their forest management to a timber investment management organization (TIMO) or the land is owned outright by a corporate timber company–often organized as a real estate investment trust (REIT). In either case, forest management corporations generally sub-contract all or most timber operations such as logging, road building, hauling and replanting. This fact has serious implications for forest policies such as taxation.

The timbering enterprise consists of three distinct parts:

1) Harvest scheduling, harvest contracting, and internal log consumption by its forest products divi- sions, and/or log sales to unrelated third parties;

2) Silviculture (the science of growing trees) activities for seedling production, pest control, stand fertilization, and growing stock management to maximize tree growth and minimize tree loss and damage.

3) Non-timberland management (e.g., hunting and recreational use) and road building and maintenance. Road building involves a considerable production of aggregate rock. Few people realize that aggregate rock production and road maintenance occupy a large share of the timber firm's forest operations.

In each area of operation, the quest for efficiency is ongoing through the adoption of new techniques and machines that streamline work and reduce the size of the workforce. Such efficiencies drive competitive pressures to lower labor costs. As with almost all U.S. enterprise, blue-collar productivity has increased over the past 40 years, while inflation-adjusted wages remain flat. This fact is often missing using the much advertised average wage in the wood products industry—not the median wage— which reflects the lower half of workers' wages.

Quest to Lower Costs

Private, for-profit businesses constantly work to lower costs. This effort is ongoing and central to the timber enterprise. Three aspects of reducing costs are paramount to Oregon's modern timber firm:

1) Lower labor costs through subcontracting. Timber operations are generally contracted out to hundreds of independent firms that do the logging, hauling, road building and reforestation. Significant motivators in the quest to subcontract forest work are the extremely high cost of health insurance and the avoidance of pension obligations. Timber land managing corporate employees generally enjoy quality health care and pension plans, relatively high wages, and year-round employment with job security. The subcontracted workforce is employed under far different conditions. The lowest-paid and least secure are people of Mexican and Central American heritage who make up a sizable portion of reforestation workforce.

Nowhere in the glowing descriptions of Oregon's timber companies is the subcontracted strata of working conditions discussed.

Since 1990, it is no accident that the invasion of Wall Street investment capital into Oregon's forests was accompanied by a transition to race-based hiring, increased workforce wage divergence, and the implementation of pervasive timber industry tax avoidance. Finance capital and its corporate clients will engineer and rationalize all manner of cost savings no matter the human cost.

2) <u>Lowered regulatory and taxation costs through political power and influence</u>. Little appreciated by Oregon voters is the degree of regulatory and tax cost savings that corporate timber firms have masterfully engineered in the state.

Only recently, through the Oregonian's *Polluted by Money* series, has the severity of tax avoidance been revealed. The timber industry's tax avoidance has been engineered by the dominant political force in the state—the timber industry. The outcome is a complex property tax system created through ballot measures and legislation that provides a low tax burden for timber companies. Since 1990 and the rise of financial forest management in Oregon, state tax breaks and subsidies have been worth billions of dollars to the industry.

3) Lowered opportunity costs through financial management. Corporate firms operate using a discounted cash flow model based on, in part, the business principle of opportunity cost. Typically, timber companies use their models to estimate if timberland investment opportunities meet their return thresholds. The way opportunity costs are assessed is focusing on the spread between the anticipated present value of a timberland project's initial and future investment costs and the present value of the project's revenues through the timber rotation cycles. Which is to say, forest growth is discounted to the present point in time at a compound interest rate, called the discount rate. If the spread is negative the project is rejected, or, re-evaluating the 'forest' investment during the rotation cycle, it may be time to cut. Based on how an investment pencils out, a company may **believe it is losing money each year harvest is delayed.** Most corporate timber firms directly grow money, and indirectly grow trees.

If this way of viewing the world seems surprising, remember that many of today's forest owners are financial firms and the business of financial capital is far different than an ordinary small business that sells goods or services. That's why it is important to keep in mind the actual enterprise of many large timber firms—they grow money.

But we know that **optimal financial cut cycles** sacrifice saw timber production. Depending on growing conditions, the industry is losing 20 percent to 50 percent of the saw timber harvest volume through financial management (Curtis, 1994).

Quick Look: Weyerhaeuser

The Northwest's largest corporate timberland owner:						
Washington –	1,297,000 acres					
Oregon –	1,591,000 acres					
2019 Net log sales	OR-WA to outside customers:	\$740				

2019 Net log sales OR-WA to outside customers:\$740.0 million2019 OR-WA sales inside company:\$226.3 million2019 Total OR-WA sales......\$966.3 million

2019 Delivered log prices: Domestic logs — Douglas fir #2 Sawlog bark on \$665 MBF Export saw logs - #2 bark on - Coastal - Douglas fir - Longview \$836 MBF

OR-WA standing timber inventory – millions of tons: Douglas fir/Cedar 161, West Whitewood 31, Hardwood 13

Of Weyerhaeuser's \$2,121 million in 2019 net timberland sales, \$740 million were logs sold to unaffiliated third parties from their WA & OR Timberlands.

(See the Investor section of weyerhaeuser.com. In the <u>Investor Toolkit</u> section open the 2019 Weyerhaeuser Factbook document.)

Quest for Maximum Forest Revenue

Timber firms seek to maximize Gross Income (GI), also known as gross profit, from their timberland operations. Gross Income is simply the timber operation's net sales less the direct costs of producing their products, also known as Cost of Goods Sold. Eliminating non-cash expenses such as depreciation, timber depletion, and amortization (DDA) that may be included in cost of goods sold, Gross Income can be considered a proxy for the timber operation's cash flow. Gross Income makes up the bulk of the firm's total overall operating cash flow. This quest to maximize Gross Income can result in more timber cutting during periods of high log prices. Maximum Gross Income is achieved by seeking the most revenue on log sales and minimizing direct production costs at the timber operation level.

From Gross Income, the company pays additional corporate Operating Expenses. However, the relevant number for taxation policy is earnings before interest, taxes, depreciation, depletion and amortization (EBITDDA). A timber firm's EBITDDA is a proxy for the company's overall operating cash flow, and financial services companies (i.e. banks) and investors use EBITDDA to assess the financial health of the company's core businesses as compared to its peers. A large EBITDDA signals the firm's timberland operations generate significant Gross Income cash flow, and that the firm is likely highly profitable.

Depending on forest products markets, Pacific Northwest forests generally produce a large EBITDDA number. Weyerhaeuser's CEO, Devin Stockfish, in 2020 shared with potential REIT investors that his company has 'the highest EBITDDA per acre vs. peers for the last 8 years."

While investors may be impressed with management reports, the outcome of the quest for a sizable EBITDDA number is that <u>the least number of dollars are left locally</u>. A large volume of cash flowing into major timberland firms, generated from local production, heads away from rural communities, to service corporate overhead expenses, to pay investors dividends and for stock repurchases, and to pay large banks service interest and loan repayments. Financial forest management is all about the extraction and export of value from local forest operations.

Maximum Return to Investors

Where exactly does the Gross Income from forest operations go? After the direct costs of producing timber are deducted, gross revenues from timber operations are used in two basic ways:

1) **Banks and debt burden**: Overall corporate cash flow pays, in part, interest and principal on the firm's debt, which includes loans, such as term debt and working capital loans provided by banks and other financial institutions, and debt issued directly by the company, such as bonds and commercial paper. In other words, a significant portion of a company's cash flow goes to banks and debt investors. As of 2019 Weyerhaeuser has a debt burden of close to \$6 billion.

Only the cost of establishing the next round of plantations is spent locally in rural communities as a

capitalized expense. Irrespective of how accounts are presented in a publicly traded company's 10k filing, Gross Income from local timber operations also pays salaries of all mid-level and top management, and the corporate leadership team's generous bonuses. In addition, Gross Income pays for other Operating Expenses, such as corporate advertising, lobbying, various forms of insurance, and, when publicly owned, stock buy-backs—another method of sending money to investors.

2) **Investor profits**: The revenue from timber operations provides the profits to owners and investors, which, of course, is the purpose of the corporate firm. While the essence of timberland management is the generation of gross revenues, the purpose of the timber firm is to return profits to owners and investors. Therein lies the basis for the double ring of pressure denying rural forest communities their fair share of the land's production value.

Timberlands dedicated to the wealthiest U.S. households

As noted above, there are two investor groups that receive timber revenues. One is the class of investors who own company stock. According to the U.S. Bureau of Economic Analysis, we know that 35 percent of U.S. stock market value is owned by people living outside the U.S. (See <u>BEA</u> website). Of those people living in the U.S. who own stock, 90 percent of all stock dividends go to the wealthiest 10 percent of U.S. households. And 60 percent of all stock dividends go to the richest 1 percent of U.S. households (New York Times, 2018).

Lenders and debt holders (creditors) also share in the company's cash flow distribution for the payment of interest and principal on the company's outstanding debt. We do not have a total for the payments that Western Oregon's industrial forests provide to creditors and shareholders. If Mr. Stockfish's statement, below, at the Nareit 2020 Investor Conference is any indication, the number is quite large. Needless to say, contracted timber workers, log haulers and reforestation workers gain nothing from increased share value and/or stock distributions.

Nareit REIT week: 2020 Investor Conference: Devin Stockfish, CEO of Weyerhaeuser Presentation. June 2, 2020
Weyerhaeuser achieved \$650 Million of margin improvements since 2014
Timberlands:
HARVEST & HAUL: Increase efficiency and reduce cost
SILVICULTURE: Optimize site prep, thinning and fertilization
Western Timberlands
HIGHEST EBITDA PER ACRE VS PEERS FOR THE LAST 8 YEARS
Deliver and Maintain Industry-Leading Cost Structure
Avoid Future Costs or Cost Increases
\$8 BILLION TO SHAREHOLDERS SINCE 2014
THROUGH DIVIDENDS AND SHARE REPURCHASE
(https://investor.weyerhaeuser.com/events-and-presentations?item=104)

Land Ownership by Corporate Forest Owners

Over the past 40 years, massive market-driven changes have reshaped the pattern of land ownership in Western Oregon. Three themes of change are worth noting:

1) A steady erosion of small landowner holdings as small holdings are bought by larger industrial owners. A 1999 Forest Service analysis of private forestland in Western Oregon states the following: "There was a net shift of 309,000 hectares [763,555 acres] from NIPF [non-industrial private forest] owners to forest industry owners between 1961 and 1994, an average annual rate of >9000 hectares. The rate of change, however, was greater between the 1961-63 and 1973-76 inventories, with an average annual rate of 12,281 hectares, than between the 1973-76 and 1984-86 inventories, with an average annual rate of <7000 hectares. The average annual rate between 1984-86 and 1994 was slightly more than 7000 hectares [17,297 acres]. The net gain of industry lands from NIPF sources was about 252,000 hectares [622,705 acres] in western Oregon from 1961 to 1994 because a total of 56,000 hectares of industry lands changed to NIPF ownership during the same period." (Zheng and Alig. 1999)

There is no reason to believe the 1961 to 1994 trend has reversed in the past 26 years. Assuming a dramatic slowdown in the loss of small forest ownership (say 5,000 acres/year) to industrial owners, easily another 125,000 acres of small holdings have been lost.

How many productive rural families have left their rural communities through the loss of up to 750,000

acres of nonindustrial ownership holdings? We don't know. But the outcome is that small rural valleys become depopulated, small bottomland agriculture ceases to exist, and associated economic activity disappears. The growth of industrial forest holdings contributes to the further urbanization of Oregon. Today, Oregon is the 19th most urbanized state in the nation.

2) The percentage of forest owned by the 10 largest industrial forest firms has steadily increased through mergers and buyouts. Today, these 10 firms dominate Western Oregon's landscape. At least 40 percent of private forestlands are owned by investment companies (Schick, 2020). In 1996, when the Coast Range Association conducted its first analysis of Coast Range forest ownership, 10 landowners often dominated each county, with 50 large industrial firms being the region's major timber owners. Twenty-four years later, private timber ownership in most counties is dominated by two or three industrial forest owners.



Western Oregon comprises 19 counties. The map below shows the major landowners in Clatsop County.

3) The timber enterprise model has shifted from historically Vertically Integrated Forest Products Companies (VIFPC), integrating their owned milling and forest operations, toward dedicated timber companies, selling logs to unrelated third-party mills, unrelated log buyers, and, in some cases, with restrictions, to its subsidiary milling companies. Driving this change are federal and state tax laws, exempting timberland owning firms and investors from ordinary corporate income tax, with income passed through to shareholders likely subject to only a dividend or capital gains tax. It is income tax law that drove companies to convert to either public REITs or private REITs whose timberland portfolios are managed by TIMOs.

Converting to a REIT eliminates ordinary corporate (i.e., C-Corp) income tax, which solves an imagined problem for affluent and wealthy people— "double taxation."

Like many stories told in the U.S. by the wealthy, the double taxation story serves the interest of wealthy people at the expense of everyone else. A business should pay taxes because it is a material entity that requires government services. All the while, the highest income people, more than anyone else, have a huge footprint consuming socially organized government services (i.e., airports, shipping ports, etc.). The wealthy have engineered a false double taxation story.

Weyerhaeuser should pay federal income tax since it owns 2.3 percent of all private forestland in the U.S. The federal government protects the company's lands and makes possible Weyerhaeuser's interstate and international commerce. Having a corporation's federal taxes levied on "profits" is arbitrary. Taxes could be levied on a company's value added, as is the case in Europe. Taxing profits is a concession to companies which allows taxes not to be paid if the company loses money.

Adding salt to the wound of tax avoidance, the richest 10 percent of U.S. households, who get 90 percent of timber REIT profits, more often than not pay federal taxes at a 15 percent to 20 percent capital gains rate. The unfair federal tax system is what caused Warren Buffet to observe in 2013, "I'll probably be the lowest paying taxpayer in the office." (Buffett says he's still paying a lower tax rate than his secretary, By Chris Isidore, CNN Money. March 4, 2013)

The Structure of the Northwest Corporate Timber Firm

Most people know Oregon's timber industry by the names they hear in the media or know of locally. Firms such as Weyerhaeuser, Greenwood Resources and Roseburg Forest Products are companies in the news. Rural people living close to a company's land holdings are often aware of who owns the nearby forest. Since we understand that a business must have one or more owners, we know that the timber industry is made up of landowner corporate firms and investors. It is in the structure below the corporate firm, where the situation becomes complicated and opaque. There are hundreds of contracting firms that do the work of reforestation, logging and hauling. In broad outline, the industry is made up of investors/owners, corporate management (working on behalf of investors/owners), subcontractor firms and a compartmentalized workforce at the level of forest operations.

Structure of the Northwest Corporate Timber Firms



The above diagram illustrates Oregon's corporate timber firm structure. A relatively lean and compact corporate firm oversees land management.

The Corporate Firms That Own Western Oregon's Industrial Forests

The largest corporate forestland firm in Oregon is Weyerhaeuser and the company is a REIT. A REIT may own up to 25 percent of its value in non-forestland assets as wholly owned subsidiaries. The Weyerhaeuser Company owns approximately 40 percent of all industrial forestland in Western Oregon. Oregon's largest TIMO is Hancock Timber Resource Group, a wholly owned subsidiary of Manulife Financial Corporation. As a TIMO, Hancock manages timberlands on behalf of its landowning clients.

Rank	Company	Acres
1	Weyerhaeuser Company	1,755,069
2	Roseburg Forest Products	466,074
3	Hancock Natural Resource Group	304,934
4	Seneca Jones Timber Company	172,949
5	GreenWood Resources	166,758
6	Stimson Lumber	156,405
7	Campbell Global, LLC	150,336
8	Cascade Timber Consulting, Inc.	144,410
9	Forest Investment Associates	137,714
10	Guistina	135,562

Data comes from CRA's 2020 forest ownership analysis (Coast Range Association, 2020)

Together, the 10 largest forest firms own around 3,563,179 acres or 81 percent of the 4.4 million acres of industrial forestland in Western Oregon.

Across Oregon's timber industry, outsourcing the day in and day out work of forest operations is the norm. One might ask: If forest owning firms do little of the work why are they here? The answer is simple: they are here to dictate financial forest management and collect the rent.

GreenWood Resources: A Financial Forest Firm

GreenWood Resources is the major forest management company in Clatsop County. The firm is a Timber Investment Management Organization (TIMO) within the global financial company TIAA. Greenwood's website illustrates the modern TIMO forest enterprise. Their website states, "Our global and regional technical centers, as well as our regional and local forestry management teams, provide the key services required at each asset, including:

- Acquisition due diligence and execution.
- Day-to-day operations consisting of:
 - Tree improvement and plant material deployment.
 - Third party contractor coordination, supervision, and monitoring.
 - Resource planning, inventory monitoring, and mapping.
 - Harvest planning and coordination.
 - Chip and log accounting and sales.
 - Ten-year operating plans with associated budgeting and forecasts.
- Management of all accounting functions of the properties.
- Administration, maintenance of records, and local compliance.
- Monthly, quarterly, and annual reporting.

Integration between investment management and the local forest management teams keeps communication open and maintains our common set of systems and procedures across the portfolio."

GreenWood Resources webpage accessed on 8-6-2020 <u>https://greenwoodresources.com/for-estry-management/</u>

We can see from their website, GreenWood Resources does not perform the work of tree planting, timber harvesting or log hauling. For forest operations, they perform "third party contractor coordination, supervision and monitoring." This means they broadly organize production and plan forest management based on financial criteria. They do this by hiring contractors, which also allows them to avoid liability when things go wrong in the high-risk logging and reforestation portions of timber operations. And note that forest and land is simply referred to as the "asset."

When a corporate firm employs contractors, the firm is prohibited from the direct supervision of the timbering workforce. The owning or managing forest corporation can set standards and specify the work to be done, but the management of the contracted firm, must, by law, be in command of its employees. This means the contractor, not the firm, determines how work is performed, allowing for a convenient firewall between the corporate forest firm and its forest operations workforce.

Most timber and reforestation workers are isolated in small competing firms. Isolation limits communication between workers regarding common issues like working conditions and compensation.



Logging Contractors

Commonly people see logging operations as what a timber company does. No doubt the job of falling, yarding and hauling logs is visually dramatic and the work is hard and dangerous. Increasingly, machines are replacing workers. It is common to see mechanical tree harvesters with head assemblies that fall, delimb and buck trees into log lengths using a single machine operator; computer-assisted machine controls; machine self-leveling mechanisms; and grapple carriages in skyline operations that release logs remotely. New technology in logging is designed to reduce costs by increasing labor productivity and safety.

Much research has gone into optimizing timber harvest operations by matching the right equipment to the job and ensuring an efficient workflow. Alongside logging operations is the continuous need to build and maintain logging roads. For efficiency, harvest operations are often concentrated in a local area where roads that have been seldom used for decades must be restored.

The responsibility to conduct highly efficient logging operations, assemble the right machinery and crew, and assume risk falls on the logging contractor.

At the 2019 Council on Forest Engineering's Western Region Seminar, Rex Storm, a Forest Policy Manager at Associated Oregon Loggers, provided insight into the challenging economic environment surrounding Oregon timber operations (Storm, 2019).

Mr. Storm pointed out that a set of "comprehensive ailments" now strain the relationship between a corporate timber firm and its contractors. He noted that "contract rates have become insufficient" to support the qualities that made contractor work desirable in the first place. The squeeze on contract logging rates is causing contractors to underinvest in new equipment.

Mr. Storm reviewed seven studies that explore the ailments, impacts, and potential remedies for the distressed world of contract logging, hauling and reforestation. Ailments included:

- 1) Stifling contract practices due to big timber's market power to dictate inadequate compensation. Big corporate firms are issuing "punitive" contracts that are of short duration, all leading to cut throat bidding between contractors.
- 2) Workforce turnover impedes production and safety.
- 3) Contractors are "weakened and unprofitable" and can't expand when necessary.
- 4) A malaise has set in inside the contractor world, straining relations between big corporate purchasers and contractors.
- 5) Low profits of just 4 to 5 percent are common in comparison to similar trade industries with 10 to 40 percent mean profit rates.
- 6) 100 percent of contractors report difficulties filling job vacancies.
- 7) 65 percent of contractors expect to downsize or remain the same size.

Relief does not appear to be in sight for timber contractors if we evaluate what Weyerhaeuser CEO Devin Stockfish told potential REIT investors in June of 2020. The goal to "increase efficiency and reduce cost" in harvesting and hauling likely will negatively impact timber contractors. Mr. Stockfish said he is proud to "deliver and maintain industry-leading cost structure" and will "avoid future costs or cost increases."

We believe that the tattered condition of timber contractors, flat wages for loggers, and abysmal conditions for reforestation workers, is simply the price paid for Weyerhaeuser's "\$8 billion to shareholders since 2014." When the purpose of a timberland company's enterprise is the "unrelenting quest to deliver value to investors" through managing, planning, marketing and accounting, then things will likely be grim at the forest operations level. The industry is now thoroughly reorganized to exploit

everyone and everything in service to Wall Street investors.

Log Hauling

Ubiquitous in Western Oregon are log trucks driving the highways and byways. Given how narrow and winding logging roads are, driving a log truck requires a highly skilled driver. We look to a 2008 study of Washington state log truck operations by the University of Washington's Rural Technology Initiative to provide insight into the Northwest log hauling industry (Mason et al., 2008).

The study reported the median log truck driver age as 55 years, working an average of 43 weeks per year. Drivers worked on average five, 12-hour days per week, drove an average of 66,122 miles per year, hauled 17,336 tons of logs, and completed an average of 2.7 loads per day. 85 percent of trucks in the study were found to be greater than 10 years old indicating a "generally aging fleet." The study noted that while only 16 percent of all Washington-based commercial truck drivers were over age 55, a staggering 52 percent of the surveyed log truck respondents reported being 55 years of age or older.Drivers received either an average wage of \$16.09 per hour or were paid based on a calculation related to volume hauled.



Photo: George

From this information, several conclusions can be drawn. Average hours worked per year are high—45 weeks averaging 12 hours over five workdays equals 2,700 hours per year. That's about one-third more hours than a full-time job. Average hourly earnings of \$16.09 per hour result in an income of \$43,200 per year. If we adjust for inflation from the study's survey period (2006), Washington log truck drivers should be earning \$56,000 today. However, online companies reporting industry wage levels suggest that today's average Washington log truck driver earns \$49,232 per year (<u>SalaryExpert.com</u>). Apparently, wages have not kept up with inflation.

Assuming that the majority of Washington log truck drivers are white and male, a <u>pay scale study</u> found that the national median annual earnings for white males peaked at \$104,100 at age 55. For males over age 50, in occupations that require long hours, the median pay was significantly higher. Older, male log truck drivers are earning approximately half the expected peak income for their race, age and gender.

The report also noted:

"Another characteristic, possibly more apparent in the log hauling industry as compared to other businesses, is the degree to which truckers regard their work as a lifestyle as much as a source of income. Discussions with truckers conducted during this investigation, corroborated by analysis of survey response data, suggested that operators compensate for challenging income situations by working extended hours of service and by doing their own maintenance and repairs. Several respondent companies indicated that wives do the bookkeeping and receive no compensation. Many independent truckers appear to accept their income as being whatever is left at year-end rather than as part of a rate calculation prior to acceptance of a haul commitment."

From this information, it is reasonable to conclude that the log hauling profession is economically stressed and comprised of an older workforce holding on to one of the few good local jobs. Drivers driving an aging fleet is itself an indication of economic pressure and competition. Due to the high degree of skill required and the long hours with modest compensation, recruiting new drivers is an ongoing problem. The log truck workforce undoubtedly must feel at-risk from any increase in fuel prices, health care costs or taxation. Contractors and workers in logging and hauling are all under siege from the corporate firms who call the shots.

Reforestation Work

After timber harvest, by Oregon law, a clearcut must be replanted. Various post-logging work activities are performed by the "forestry services" workforce. Forestry work to re-establish a forest stand is called reforestation. Reforestation involves the repetitive planting of seedlings; navigating rough terrain; working in extreme temperatures and inclement weather; exposure to plants such as poison oak and ivy, and possible exposure to freshly sprayed pesticides. As with all contract work, there are constant pressures to work harder and faster. The Oregon reforestation workforce is dominated by workers of Mexican and Central American heritage, many of whom are employed through an H-2B temporary work visa.

We quote from the report, System Failure: Work Organization and Injury Outcomes among Latino Forest Workers (Wilmsen et al., 2019), which focused on the health and safety conditions of Oregon reforestation workers:

"In Oregon, workers in this industry are largely Latino immigrants. These workers, like other immigrant workers of color, are socially positioned in ways that shape access to employment, education, medical care, housing, and other necessities of life. That social positioning and the relations of power that bear on it entails elevated vulnerability to economic, social, physical, and psychological harm. The institutional racism that underlies this structural vulnerability may have profound implications for health disparities." "Occupational segregation by race is a typical occurrence in the forestry services industry. Labor intensive, more dangerous work tends to be done by Latino workers, while more specialized, technical, higher paying tasks are performed by white workers. Work is seasonal, from February through November, with no guarantee of work or rehire each season. Workers experience high-pressure work environments where bullying by supervisors is common. Most workers receive little safety training, and health and safety are typically given inadequate attention from management. The workforce is not unionized. Collectively, such work organization factors and their attendant power relations place workers in this industry at high risk for job-related injury, illness, and fatality."

The above passages sum up the worst aspect of the Oregon timber industry–race-based hiring that places people of color in the lowest-paying jobs under oppressive working conditions. We suggest readers read the <u>Timbers Fallen Three Part Investigative Series on Oregon's Reforestation Workers</u> by Emily Green published in Portland's **Street Roots** newspaper (Green, 2016).

The Street Roots series on worker abuse prompted a special hearing in Salem by Sen. Michael Dembrow. Senator Dembrow convened the Senate Workforce Committee and heard testimony about immigrant and guest worker exploitation.

In an article by Ms. Green reporting on the Senate hearing, she wrote:

"Through a translator, Ramon Gutierrez and Andrés Cortez relayed their experiences working for reforestation contractors. "I'm here asking for your help," Gutierrez told the committee. "I've come to tell you that in this type of work, we are mistreated very much, almost like animals, and we are not animals." Cortez said over the past 13 years he's worked for several companies in Oregon's forests, and he's never seen a safety inspection take place."

"They give us bad equipment. That's part of the reason that we have accidents, and we are under too much pressure to do more work than we can," Cortez said, adding that he suffered a fractured foot on the job. Gutierrez said he's been injured, too. He broke his arm while working for an Oregon-based company on California land and had to have surgery in three places."

"They don't treat us like we're people. In the whole year I worked with a company, I never had a rest break, and they never paid my overtime," Cortez said. "They bully us and they always threaten us that they will fire us, and that's part of the reason that many of us don't speak out. That's why we are here today. So you can hear us and you can help us, because we feel that you are the ones that can help us."

"Gutierrez told the committee a fellow worker committed suicide because he couldn't live with a work-related injury. After the hearing, he told Street Roots that man was his best friend."

Previously, we asked the question—if timber contractors are suffering under corporate forest management, what are the conditions of labor for timber workers? Across the board, there is strong evidence

that at the lowest rung in the timber hierarchy, the conditions of work are outright oppressive and racist.

The Flow of Wealth

Unlike timber workers, corporate managers, technical staff, and other related professionals seldom live near forest operations. We find that lower-wage workers live in one geography and higher paid, salaried employees, live and work in cities where health care, schools, and urban amenities match their higher wage.

According to Congressional Budget Office (CBO) income data, in 2015 the top 10 percent of U.S. households (ranked by income before taxes and transfers) received over 80% of business income; the top 1%, over 50 percent. The top 10 percent received nearly 90 percent of capital income (capital gains, interest, rent, and dividends, less corporate taxes); the top 1 percent nearly sixty-five percent.

The above numbers are significant because the forestlands of Western Oregon are managed by corporate firms to generate profits for shareholders, investors or corporate bondholders. The overarching purpose of 80 percent of Western Oregon's industrial forests is to provide income to the wealthiest people in the U.S.

Using Oregon's defined industrial forest base as 4.4 million acres we conclude: Firms managing 3,780,000 acres send their profits to the top 10 percent of the wealthiest U.S. households, and of those acres, 2,730,000 generate profits for the richest 1 percent of U.S. households.

A Geography of Injustice

In a remarkable series of studies sponsored by the United Way, a Northwest study was carried out to identify and understand households defined as asset limited, income constrained, and yet employed (2020 ALICE Report, OR). This income status study is ascribed the acronym ALICE. Approximately 44 percent of Oregon households have incomes defined as 'poor' or economically challenged. Economically challenged households have one or more employed members, but the family cannot make ends meet.

ALICE households earn more than the U.S. poverty level, but less than the basic cost of living for the specific county the family lives in. Combined, the number of households at or below poverty level and ALICE households equals a county's population struggling to afford basic needs. The combined poverty-ALICE percentages tell a familiar story. Wealth and income is concentrated in metropolitan areas while those distant rural landscapes that depend on a land-based economy have a shockingly high percentage of people who are poor or not making ends meet.

In rural counties, income disparities between areas reflect communities grounded in the local economy and those areas that are home to more affluent retirees from metropolitan cities or are a destination for affluent metro-based recreationists.

Western Oregon Communities: Percentage of ALICE & Poverty Households

All Oregon Counties			Tillamook County		
County	Total Households	%ALICE & Poverty	Cities	Total Housholds	%ALICE & Poverty
Benton	33,609	41%	Bay City	522	41%
Clackamas	150,382	30%	Bayside CDP	359	62%
Clatsop	15,549	42%	Garibaldi CDP	344	57%
Columbia	18,781	39%	Hebo CDP	168	28%
Coos	25,814	47%	Idaville CDP	137	70%
Curry	10,413	41%	Manzanita City	185	42%
Douglas	43,389	43%	Nehalem City	116	33%
Jackson	82,983	45%	Netarts CDP	479	47%
Jefferson	7,723	39%	Oceanside CDP	176	23%
Josephine	34,517	48%	Pacific City	407	58%
Lane	144,166	43%	Rockaway Beach	537	56%
Lincoln	20,458	42%	Tillamook City	1976	55%
Linn	43,911	44%	Wheeler City	163	66%
Marion	114,077	43%	(Hoopes, 2018)		
Multnomah	309,522	31%	*census-designated place (CDP) are populated areas that generally include one officially designated but currently		P) are
Polk	28,097	39%			include ırrently
Tillamook	9,576	47%	unincorporate d community, for which the CDP is named, plus surrounding inhab- ited countryside of varying dimensions and, occasionally, other, smaller unincor- porated communities.		
Washington	203,665	33%			
Yamhill	35,454	40%			

Ownership of Western Oregon's Industrial Forestlands

In 2017, the Coast Range Association published the results of a mapped land ownership analysis for 18 of Western Oregon's counties. We coded all real property parcels outside of Urban Growth Boundaries to one of five categories: (1) mill-related industrial forestland, (2) financially managed forest land, (3) tribal land, (4) public lands (local, state and federal), and (5) all remaining land usable for settlement, commercial use, and agriculture.

During 2020, we revisited forest ownership using newer data. From this new analysis, we have developed acreage totals for each major timberland owner and a new set of high-quality maps.

The distribution of land ownership in the 18 Western Oregon counties reflects the erosion of small landowner holdings. As previously noted, as much as 750,000 to 1 million acres of non-industrial forest ownership has been absorbed by industrial owners since the 1960s. We believe the loss of small owner holdings hurts the rural economy.



2020 Coast Range Association Analysis of Industrial Forest Ownership

References

Coast Range Association. (2020 Industrial Forest Ownership Analysis, online. https://coastrange.org/ challenging-wall-street-forestry/ownership/

Curtis, Robert. (1994. Some Simulation Estimates of Mean Annual Increment of Douglas-Fir: Results, Limitations, and Implications for Management. United States Department of Agriculture, Forest Ser- vice Pacific Northwest Research Station. Research Paper PNW-RP-471

Curtis, R., & Carey, A. (1996. Timber Supply in the Pacific Northwest. Forestry Sciences Laboratory, USDA Forest Service. Journal of Forestry. September 1996

Green, Emily. "Timber's fallen: A three-part investigative series on Oregon's reforestation workers." Street Roots, 2016, online. <u>https://www.streetroots.org/news/2016/02/18/timbers-fallen-three-part-in-vestigative-series-oregons-reforestation-workers</u>

Greenwood Resources webpage. Accessed on 8-6-2020. https://greenwoodresources.com/forestryman- agement/Ecotrust's Forests & Ecosystem Services program webpage. https://ecotrust.org/our-programs/forests/

Hoopes, S. Ph.D. et al., (2018). ALICE: A Study of Financial Hardship in Oregon. United Way Alice Project.

MacLean, Colin D. (1990). Changes in area and ownership of timberland in western Oregon: 1961-86. Resour. Bull. PNW-RB-170. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station. 13 p.

Mason, C. L., Casavant, K. L., Lippke, B. R., Nguyen, D. K., Jessup, E. (2008). The Washington Log Trucking Industry: Costs and Safety Analysis. The Rural Technology Initiative University of Washing- ton and The Transportation Research Group Washington State University

New York Times 2018: We All Have a Stake in the Stock Market, Right? Guess Again. (<u>https://www.nytimes.com/2018/02/08/business/economy/stocks-economy.html</u>)¬

Price, C. C., & Edwards K. A., Trends in Income From 1975 to 2018. Santa Monica, CA: RAND Cor- poration, 2020. https://www.rand.org/pubs/working_papers/WRA516-1.html.

Schick, T., Davis, R., Younes, L. Big money bought Oregon's forests. Small timber communities are paying the price. Oregon Public Broadcasting, The Oregonian, ProPublica. June 11, 2020. Online. <u>https://www.opb.org/news/article/oregon-investigation-timber-logging-forests-policy-taxes-spot-ted-owl/</u>

Storm, Rex. Presentation to Council on Forest Engineering, Western Region Seminar. Eugene, OR – Jan. 17, 2019. Pdf document accessed 9/15/2020 at <u>https://westernforestry.org/wp-content/up-loads/2018/10/8_2019-WR-COFE-Presentation_Rex-Storm.pdf</u>

Wilmsen, C., Castro, A. B., Bush, D., & Harrington, M. J. (2019). System Failure: Work

Organization and Injury Outcomes among Latino Forest Workers. Journal of agromedicine, 24(2), 186–196. <u>https:// doi.org/10.1080/1059924X.2019.1567421</u>

Zheng, Daolan; Alig, Ralph J. 1999. Changes in the non-Federal land base involving forestry in west- ern Oregon, 1961-94. Res. Pap. PNW-RP-518. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station. P 22

Appendix 1. County Level Land Ownership

Douglas County



Coos County



Lane County



Lincoln County

