

Timber Sales at Pack Forest

May 16, 2014

US and Global Forestland

Sources:

- USDA Forest Service, Forest Inventory and Analysis Program
- United Nations, Food and Agriculture Organization

World Forest Cover, 1990-2010

Region	Total Forest Cover		
	1990	2000	2010
	Million Hectares		
Africa	749	709	674
Asia	576	570	593
Europe	989	998	1,005
North and Central America	708	705	705
Oceania	199	198	191
South America	946	904	864
World	4,168	4,085	4,033

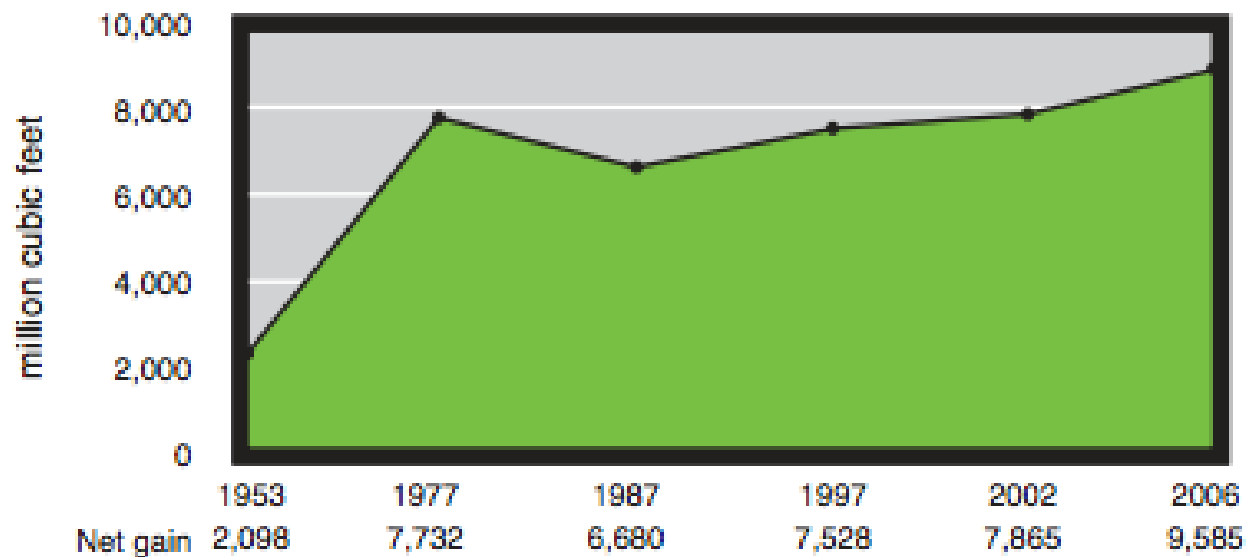
Source: Compiled by Earth Policy Institute from U.N. Food and Agriculture Organization, **Forest Resources Assessment 2010: Global Tables** (Rome, 2010), www.fao.org/forestry/fra/fra2010/en/.

US forestland (million acres) by region, 2005

	Total land area	Forestland				Other land
		Total	Timberland	Reserved ^a	Other ^b	
Northeast	127	85	80	4	1	42
North Central	287	86	83	2	1	201
North	414	171	163	6	2	243
Southeast	148	88	86	2	0	60
South Central	387	126	117	1	7	261
South	535	214	203	3	7	321
Great Plains	194	6	5	0	0	188
Intermountain	548	145	65	20	60	403
Rocky Mountain	742	151	70	20	60	591
Alaska	365	127	12	33	82	238
Pacific Northwest	109	53	44	5	4	56
Pacific Southwest	109	35	20	6	9	74
Pacific Coast	583	214	76	44	94	369
US total	2,274	750	512	74	164	1,524

USDA Forest Service, Forest Inventory and Analysis Program (2006)

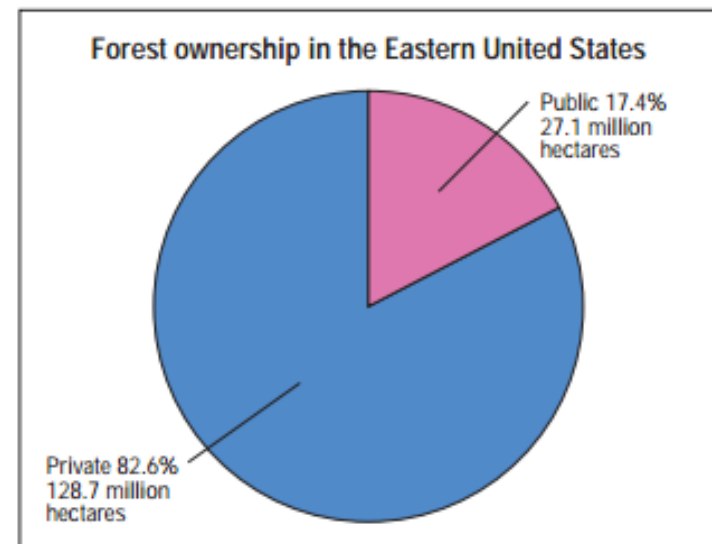
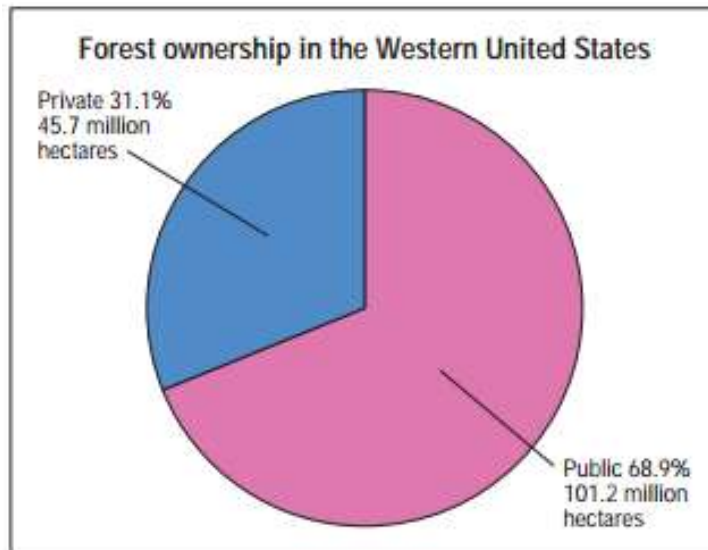
Trend in net annual gain of growing stock in US timberland, 1953–2006



Source: USDA Forest Service, Forest Inventory Analysis Program. 2006.

US Forestland Owners

- Forestland Owners
 - Public
 - Private Industrial
 - NPWO (Small Forestland Owners)



USDA Forest Service, Forest Inventory and Analysis Program (2000)

A Broad Global Timber Industry Summary

- Timber is a global commodity historically and in the present
- Forestland utilization has an impact on local and global economies
- Land ownership patterns influence timber management at the local and global scale.
- As US timber increases, globally forestland decreases
- US is a net exporter of logs and a net importer of forest products.
- US is a net consumer of forest products (FAO 2010).

Overview of the US Lumber Industry

From the stump to your home...



Put yourselves in the shoes of the landowner.

- You've got wood!
- How much is it worth?
- Who is involved in its sale?
- How can you make the most money?
- How can you protect your resource?

How much is my timber worth?

- Products (aka sorts)
 - Classes (Sawtimber, roundwood, pulpwood)
 - Grades (SM, #2, #3, #4)
 - Special products (i.e., poles, piles, slicers)



How much is my timber worth?

- Products (aka sorts)
 - Classes (Sawtimber, roundwood, pulpwood)

Western Washington									Average	
	5/1/07	5/1/08	5/1/09	5/1/10	5/1/11	5/1/12	5/1/13	4/1/14	5/1/14	\$ change
Domestic										
Douglas Fir										
#2 saw	\$575	\$422	\$331	479	\$580.00	\$537.00	\$665.00	\$690.00	\$648.00	(\$42.00)
8-11" saw	\$556	\$397	\$304	465	\$544.00	\$515.00	\$648.00	\$672.00	\$632.00	(\$40.00)
chip/saw	\$65	\$43.88	\$35.00	54.86	\$61.93	\$60.70	\$71.66	\$72.61	\$70.30	(\$2.31)
pulp avg	\$38.88	\$41.08	\$25.63	29.04	\$42.75	\$36.83	\$27.00	\$31.38	\$32.77	\$1.39

- Regional, National, and Global Price Trends
- What else might affect timber prices?

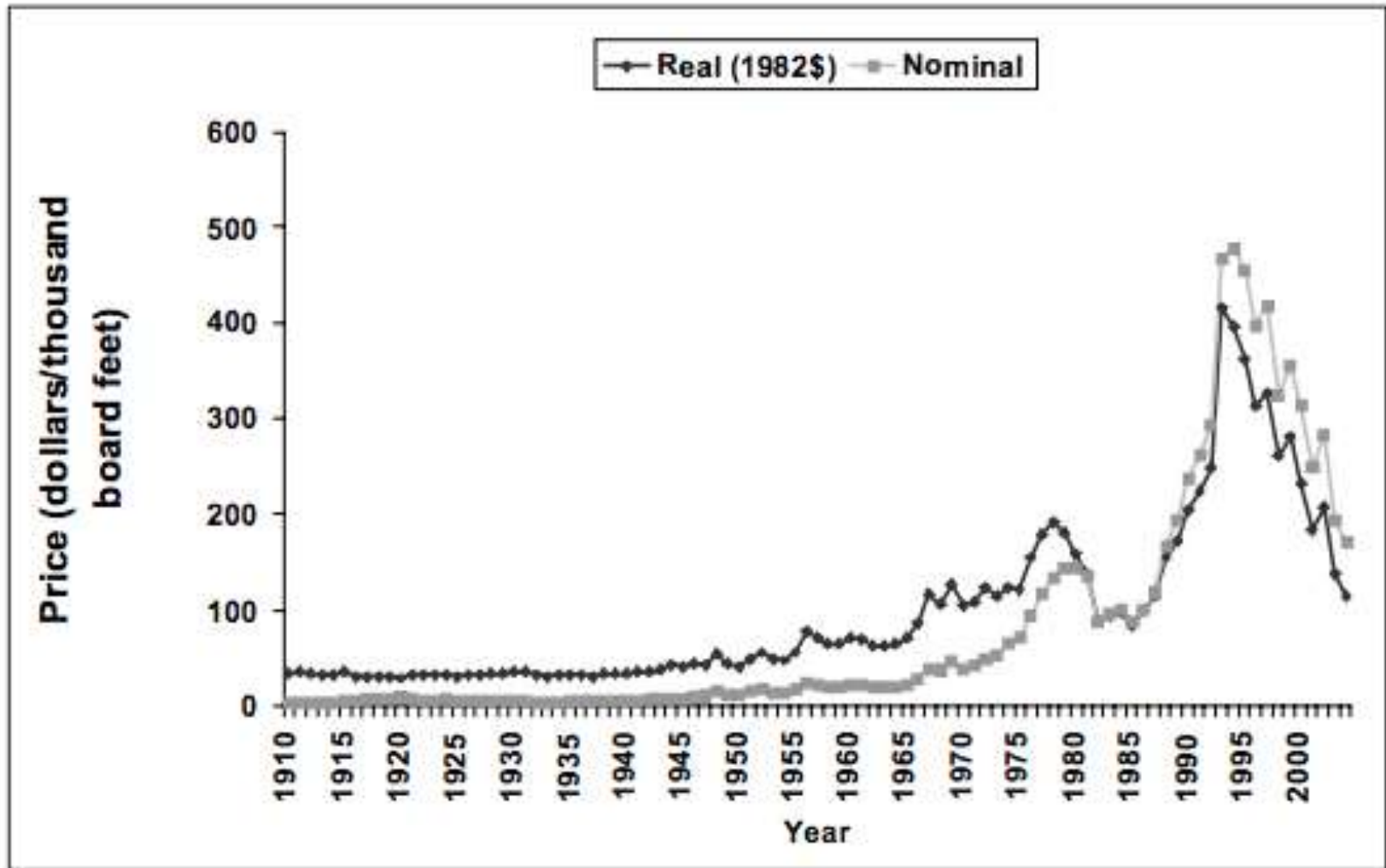


Figure 2—Douglas-fir stumpage price, deflated and nominal.

Haynes, R.W. 2008. Emergent lessons from a century of experience with Pacific Northwest Timber Markets

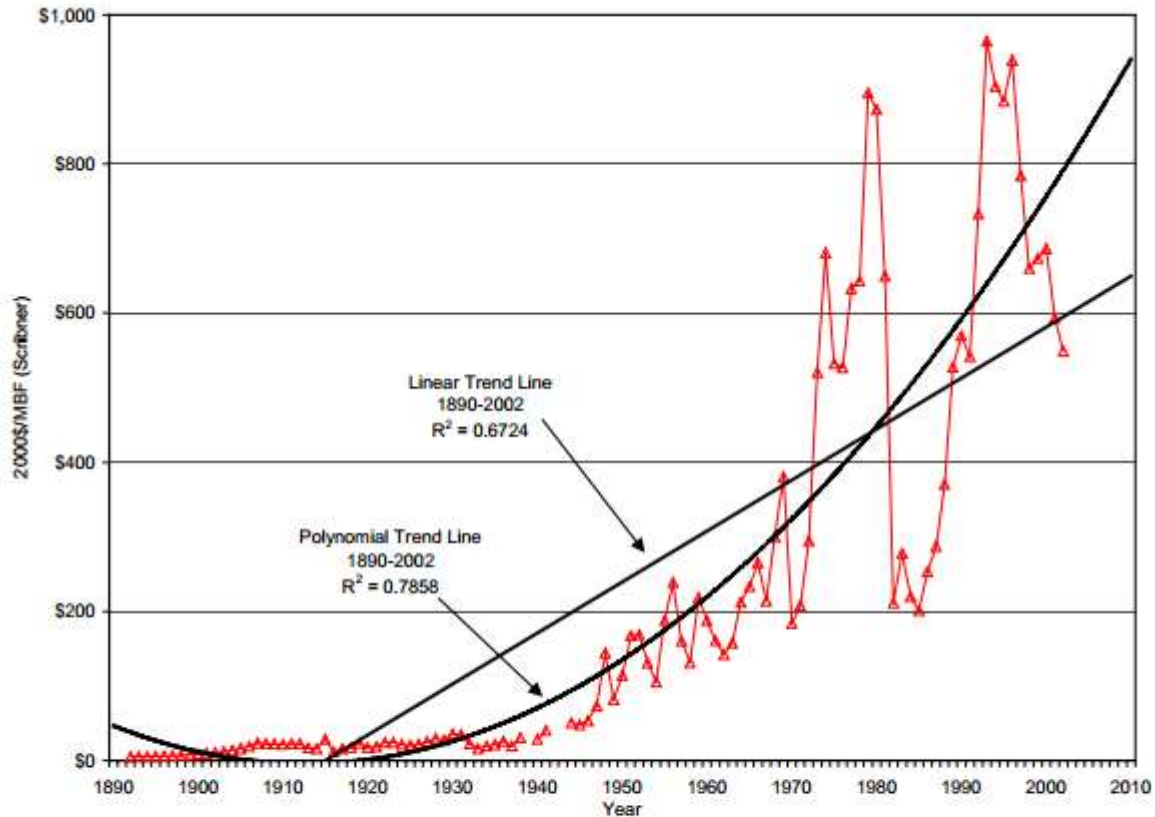


Figure 4 Trend Analysis of Douglas-fir Logs (Real 2000\$), 1890-2002

The apparently dismal performance in log prices over the last nine years (since 1993) has merely brought them down to the long-term linear trend line (or slightly below the long-term polynomial trend line). Note that these prices have shown some volatility over the past 30 years!

Ed. Lutz, Jack. 2002. "Western Timberlands - An exhausting review of recent timber prices". James W. Sewall Company. Timberland Report. VOL. 4, NO. 2

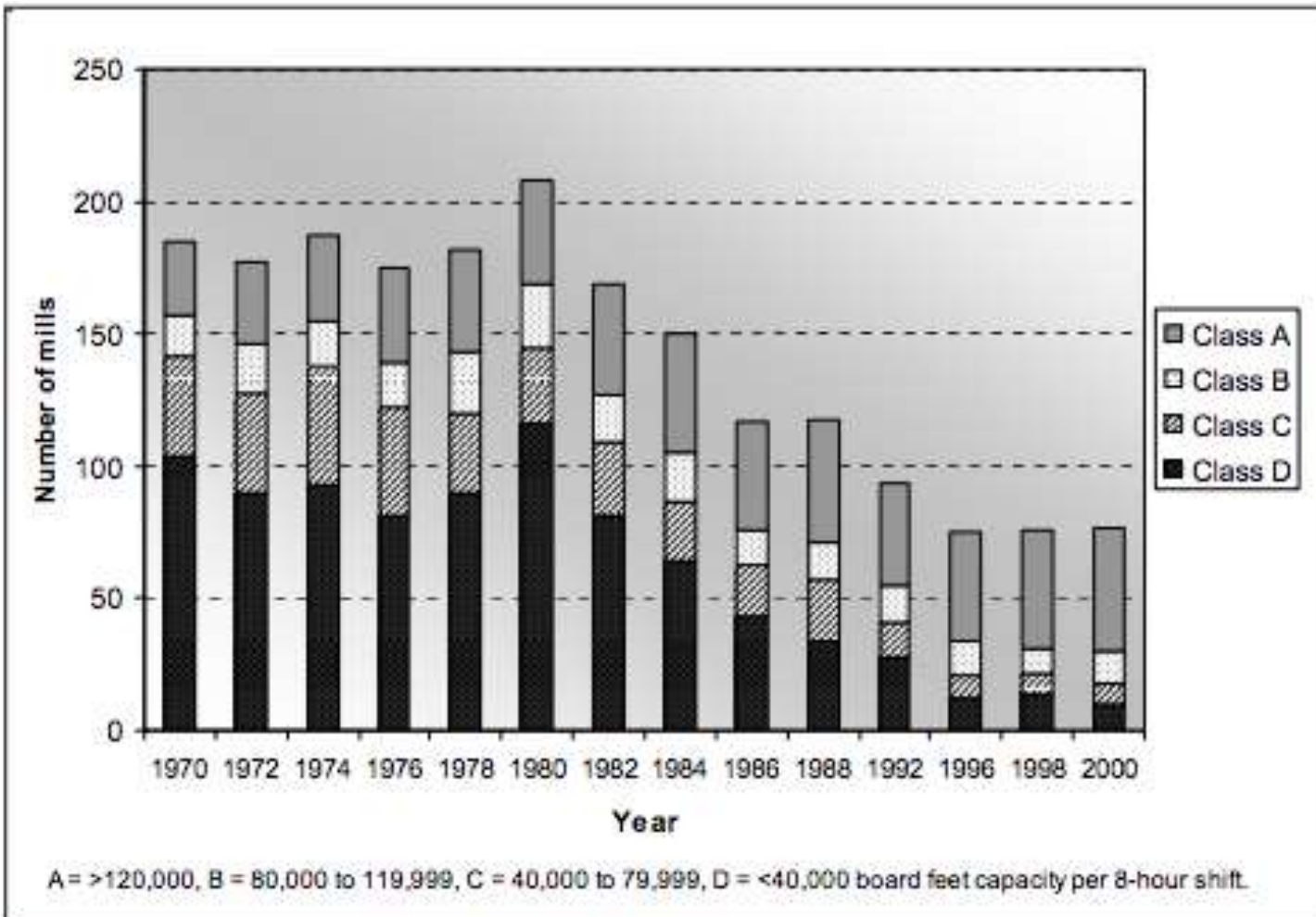
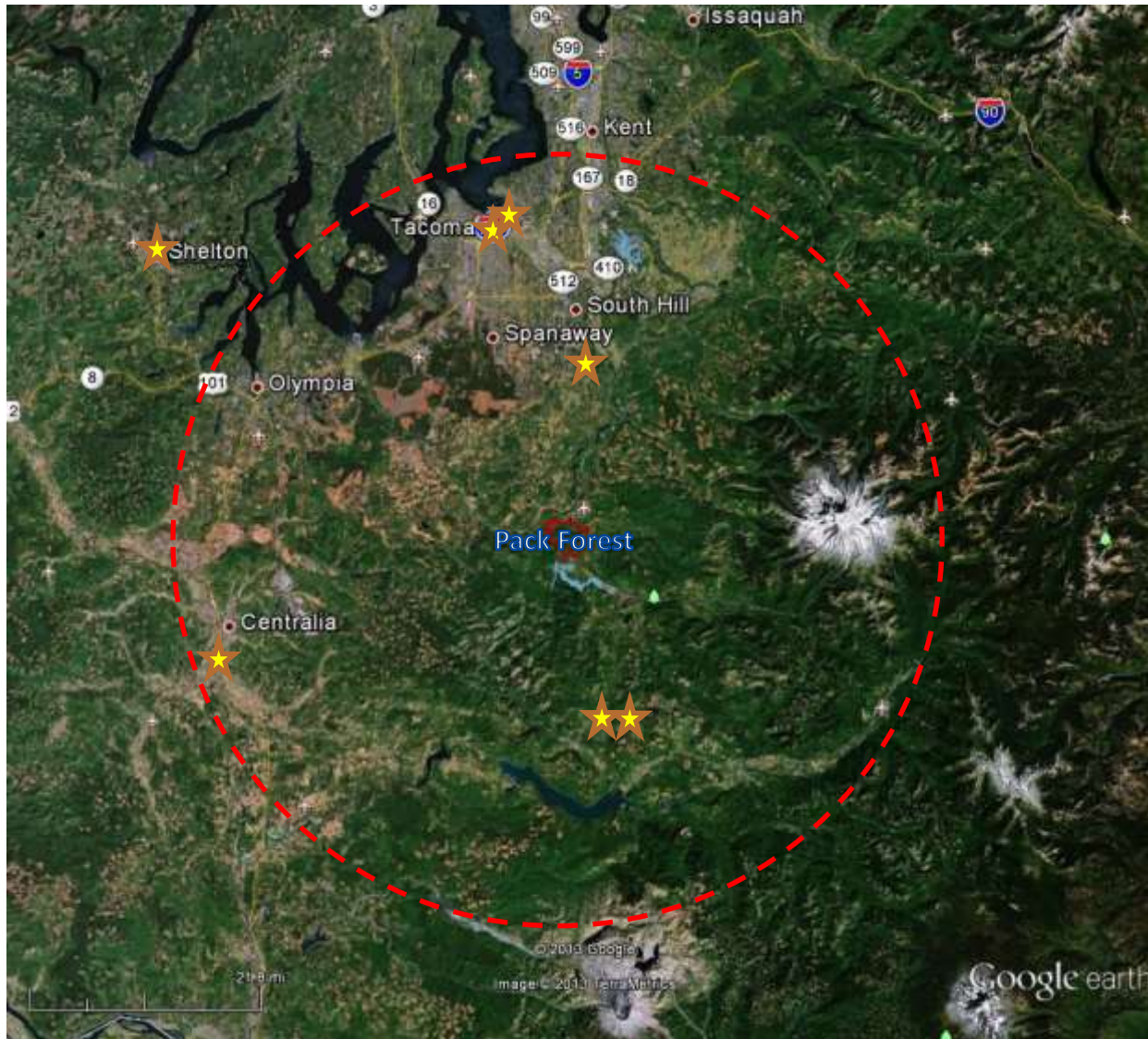


Figure 27—Number of sawmills by mill size, Washington.

Daniels, Jean M. 2005. The rise and fall of the Pacific Northwest log export market. Gen. Tech. Rep. PNW-GTR-624. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station. 80 p.

Pack Forest's Wood Basket

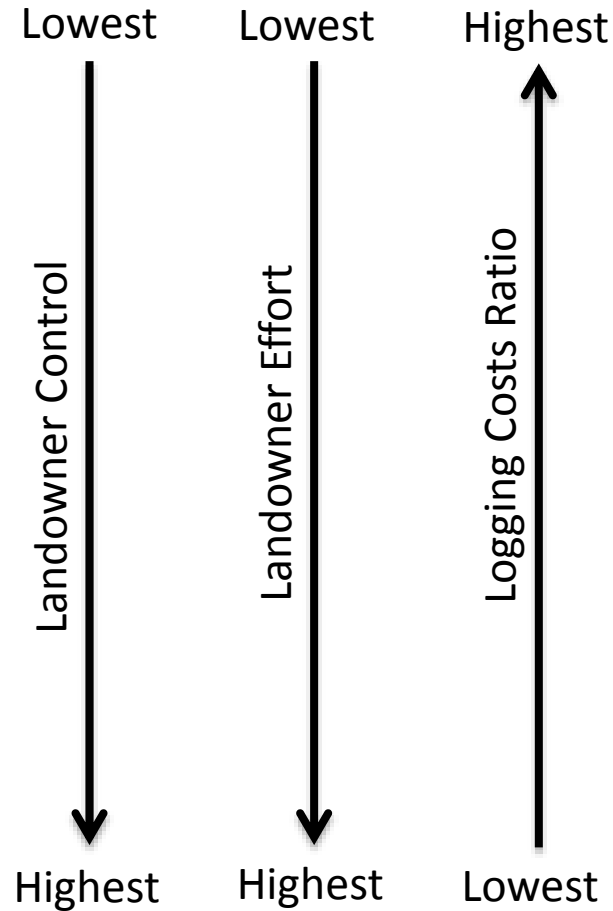


Timber Sale Players

- Landowner
- Logger
- Mill
- Procurement Forester (mill representative)
- Consulting Forester (landowner representative)
- Transportation
- Consumer

Ways to sell your timber

- Lump Sum
- Stumpage
- Percent Sale
- Delivered Log Sale
- Sort Sale



Pack Forest Timber Sales

- Timber cruise
- Forest Practices Application
- Advertisement & Bidding
- Contracts
- Logging
- Accounting
- Post-harvest activities

Timber Cruise

- An **estimate** of standing merchantable volume.
- Generated by sampling:
 - fixed plots
 - variable plots
 - 100% cruise
- Volume broken down by species and grade
- Volume presented in Scribner log rule
 - Scribner is conventionally used in the PNW

What is merchantable volume?



...and what is a log rule?

LS 13.1 Timber Cruise

- 11.8 acre stand
- Variable Radius Plot Cruise
- Fifteen plots in a grid pattern. BAF=20

Total Stand Volume (including reserve area)	
Species	Gross Volume
DF	394,733
WH	73,616
GF	
WRC	51,960
RA	19,452
BC	
BM	
Total bf	539,761
Total Conifer SL (bf)	520,309
Total Hardwood (tons)	175

Unadjusted Grade Volumes

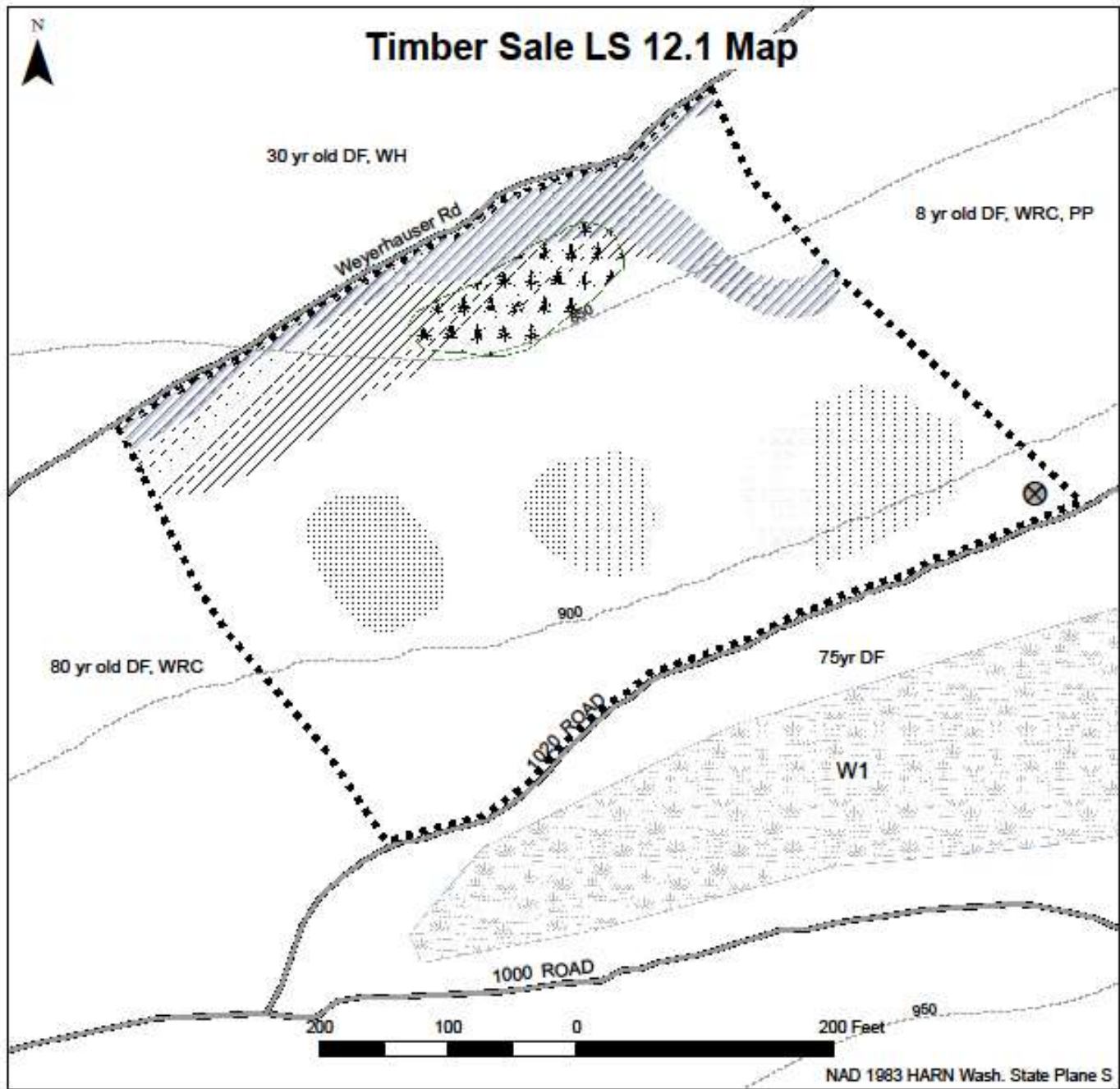
Species	SM (Mbf)	Poles	#2 (Mbf)	#3 (Mbf)	#4 (Mbf)	Pulp (tons)
Douglas-fir	9	see cruise sheet	155	68	6	246
Douglas-fir Oversized	6		82	20	0	
Western hemlock	1	--	31	18	3	17
Grand fir						
TOTALS	16		268	107	9	263

Species	#1 (Mbf)	Poles	#2 (Mbf)	#3 (Mbf)	#4 (Mbf)	
Western redcedar	3	see cruise sheet	6	32	17	

Species					Sawlogs(Mbf)	Pulp(tons)
Red alder					11	66
Black cottonwood						
Bigleaf maple						
TOTALS					11	66

LS 13.1 Forest Practices Application

- Legal description of property
- Roads
 - Do you have an RMAP?
 - Are you building new roads?
- Wetlands and Streams
 - WMZs and RMZs
- Harvest type: system, equipment, acres, volume, slope.
- Reforestation
- Wildlife Reserve Trees/Green Recruitment Trees
- Land Conversion



UNIVERSITY OF WASHINGTON
SCHOOL OF ENVIRONMENTAL
AND FOREST SCIENCES

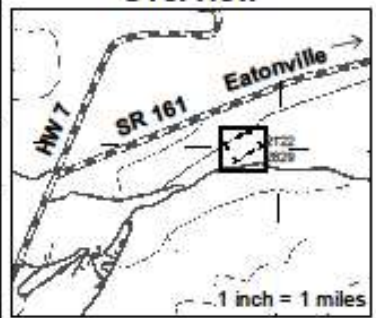
**CENTER FOR
SUSTAINABLE
FORESTRY**

AT PACK FOREST

- Leaf Trees
- 30-50% Slope
- >=50% Slope
- Root Rot
- Forest Roads
- Wetland
- Harvest Unit 1 Boundary
- 50' Contour
- Log Deck Location

Harvest Perimeter = 1,995 ft

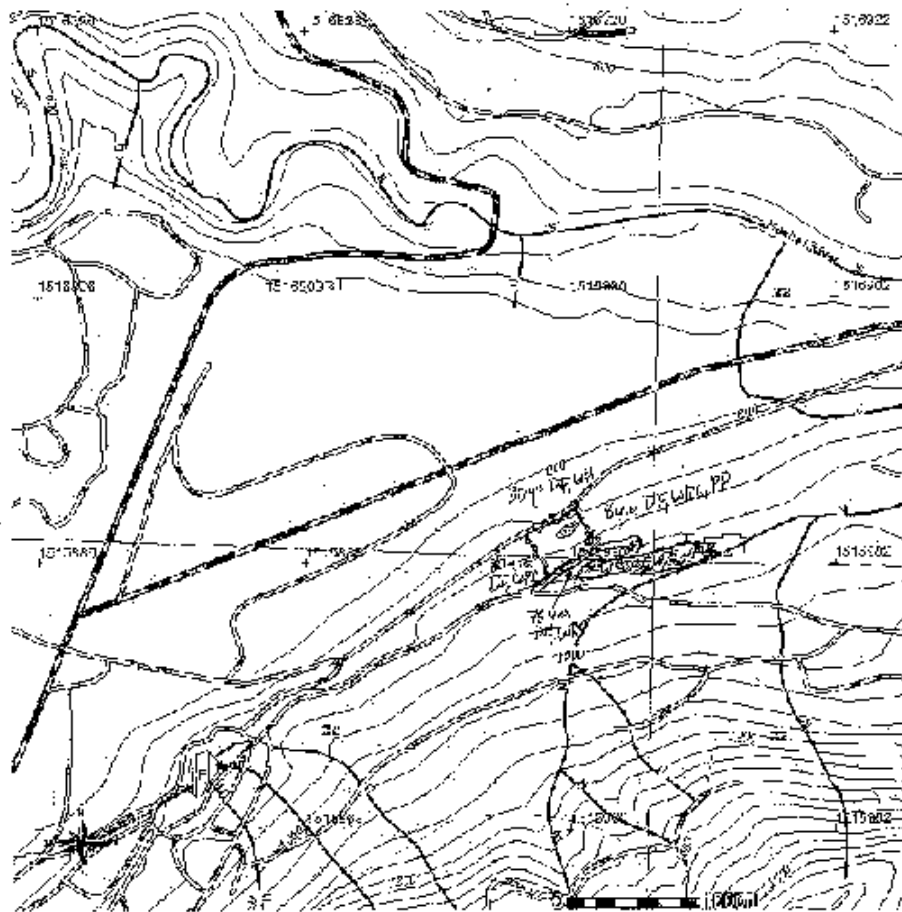
Overview



FOREST PRACTICE ACTIVITY MAP

TOWNSHIP 18 NORTH HALF C, RANGE 4 EAST (W.M.) HALF 0, SECTION 21

Application #: _____

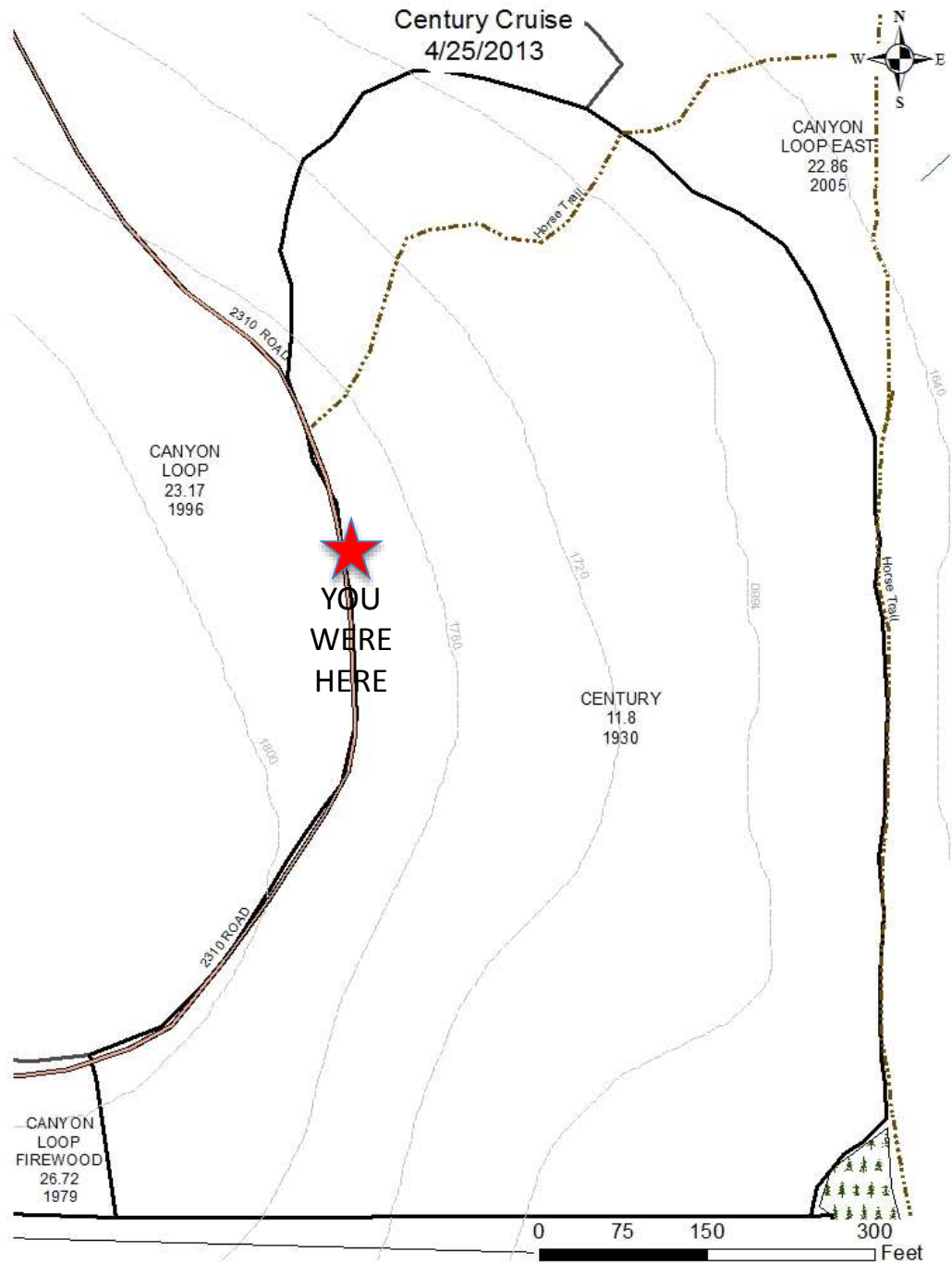


Please see the legend on the RPA instructions or provide a list of symbols used

- Unit Boundary (Unit 1)
- Existing Forest Road (Unpaved)
- FORESTED WETLAND (Wetland W1)
- WRTS + GRTS (Clamped)
- LANDING

File: AG 31 0312 00A-21 001 0708
 Page: 001 of 01
 Date: 03
 Contour Interval: 20 Feet

Harvest Perimeter = 1,945 Ft.



Timber Export and Excise Tax Laws

- WAC 240-15: Unprocessed timber originating from public land may not be exported until it has been processed.
- WAC 458-40: In lieu of property tax on trees, timber owners pay a 5 percent excise tax on the stumpage value of their timber when it is harvested
 - When timber is harvested from **public** lands, the owner is the first person (other than the public entity) to acquire title or possessory interest to the timber.

Advertisement

- We advertise the sale in two parts
 - Logging Contract
 - Log Sale
- How does one find a logger?
 - Washington contract loggers association
 - Ongoing mailing list
 - Word of mouth

Bidding

- Bid format for loggers
 - Cost per MBF or ton
 - Cost for transport by weight and mileage
- Bid format for mills
 - Price per MBF or ton by sort
- Why do we conduct a sealed bid?

Bid Analysis

		Logger A	Logger B	Logger C
LC13.1 - Unit 1	\$/Mbf	\$78.00	\$123.50	\$118.00
	Est. Vol.	526	526	526
	Sawtimber Logging Cost*	\$41,028.00	\$64,961.00	\$62,068.00
	\$/Ton	\$12.70	\$18.00	\$17.50
	Est.Tons	329	329	329
	Pulpwood Logging Cost**	\$4,178.30	\$5,922.00	\$5,757.50
	Total:	\$45,206.30	\$70,883.00	\$67,825.50
Total	Logging	\$45,206.30	\$70,883.00	\$67,825.50
Total	Haul	\$48,299.23	\$54,411.52	\$2,109,061.46
Total Cost	Stump to Mill	\$93,505.53	\$125,294.52	\$2,176,886.96

Bid Analysis

Mill	Grade	Price/Mbf	Volume (Mbf)	Gross	Haul	Gross - Haul
McFarland Cascade	DF Poles	\$800 - \$1000	28	\$26,400.00	\$2,425.96	\$23,974.04
Manke	DF #2 & #3 (30"+)	600 & \$415	54	\$30,365.00	\$3,259.46	\$27,105.55
Buse	DF SM (30"+)	\$680	3	\$2,040.00	\$205.55	\$1,834.45
Rainier Veneer	All DF SM to #4 (<30")	\$603	319	\$192,197.50	\$14,340.33	\$177,857.17
Mill	Grade	Price/Mbf	Volume (Mbf)	Gross	Haul	Gross - Haul
Rainier Veneer	WH #1-4	\$503.00	53	\$26,659.00	\$2,382.56	\$24,276.44
Mill	Grade	Price/Mbf	Volume (Mbf)	Gross	Haul	Gross - Haul
McFarland Cascade	WRC Poles	\$1,700	10	\$17,000.00	\$866.42	\$16,133.58
Tubafor (TMI)	WRC #1-4	\$882	48	\$42,365.28	\$2,175.19	\$40,190.09
Mill	Grade	Price/ton	Volume (ton)	Gross	Haul	Gross - Haul
Northwest Hardwoods	RA Sawlogs	\$73.00	77	\$5,621.00	\$804.52	\$4,816.48
Northwest Hardwoods	Hardwood pulp	\$30.00	66	\$1,980.00	\$665.67	\$1,314.33
Mill	Grade	Price/ton	Weight (tons)	Gross	Haul	Gross - Haul
Edman	Pulp	\$27.00	263	\$7,101.00	\$2,301.87	\$4,799.13

TOTALS	\$351,728.78	\$29,427.53	\$322,301.25
---------------	---------------------	--------------------	---------------------

Legal Contracts

- Logging Contract Terms:
 - Description of harvest, log specifications, prices
 - Requirements and penalties, insurance, performance bond
 - Terms for contract modifications and release
- Log Sale Contract Terms:
 - Description of logs and prices
 - Requirements for delivery, export restrictions, tax
 - Surety bond and contract modifications and release

Logging

My role

- Kickoff meeting and site walk
- Harvest monitoring checklist
- Timber security
- Protect Pack Forest resources
- Maintain overall safety and security
- Stay out of the loggers way!

Compliance

- Truck Tickets
- Log Brand
- BMP Monitoring
- Sale Checklist
- Site Visits

LC 12.1 CUTTING CARD

Rainier Veneer - Graham, WA

SORT: DF - SM/#2/#3/#4

DIAMETER: 6" top to 28" max butt

LENGTH: "peeler" lengths (17', 26', 34') + 10" trim

CULLS: straight, knots < 2" diam, no freeze break

TMI Forest Products - Morton, WA

SORT: WRC

DIAMETER: 5" top, no max butt

LENGTH: (37', 31', 24', 18') add 12" trim to length

Manke Lumber - Tacoma, WA

SORT: DF - Oversized (>28"), WRC - Camp Run

DIAMETER: DF >28" top. WRC >5" top. No maximum.

LENGTH: DF 16' min to 40' max, WRC 12' min to 18' max

CULLS: reasonably free of defect, no wormy cedar

NW Fibre - Morton, WA

SORT: Conifer & Hardwood Pulpwood

DIAMETER: 4" min top to 25" max butt

LENGTH: 12' min to 40' max

CULLS: all logs must produce > 50% firm usable chips

Sort by species, then by conifer/hdwd mix, then by mix

PACK FOREST LC 12.1 HAULING CARD

Rainier Veneer - Graham, WA

Sort: DF "Peelers" SM - #3

Haul to: 8220 Eustis-Hunt Road - Graham, WA 98338

Route: (20 miles) Right on Hwy 7 N - Right on Hwy 161 N - Left on 224th St E - Right on 82nd Ave E - Right into Rainier Veneer Log Yard

McFarland Cascade - Morton, WA

Sort: DF Poles

Haul to: 246 Boistfort Rd - Chehalis, WA 98532

Route: (64 miles) Right on Hwy 7 N - Left on 702 W - Left on 507 S - Left on Wichman St - Cont. on Old Hwy 99 SE - Merge on I-5 S - Exit on 6 W - Left on Boistfort Rd - Right into Curtis Mill

Manke Lumber - Tacoma, WA

Sort: DF Oversize & WRC Camp Run

Haul to: 1717 Marine View Dr - Tacoma, WA 98422

Route: (38 miles) Right Hwy 7 N - Right on 38th St - Merge on I-5 S - Merge on I-705 N - Exit on 509 N - Left into Tacoma Log Yard

Tubafor Mill - Morton, WA

Sort: WRC Sawlogs

Haul to: 318 State Route 7 - Morton, WA 98356

Route: (26 miles) Left on Hwy 7 S - Right into Morton Mill Yard

NW Fibre - Morton, WA

Sort: All Pulpwood

Haul to: 324 Davis Lake Rd - Morton, WA 98356

Route: (27 miles) Left on Hwy 7 S - Left on Davis Lake Rd - Right into Morton Log Yard

A sampling of logging terms

A photograph of a logging site in a forest. In the center, a yellow excavator is positioned behind a large stack of cut logs. The ground is covered with a thick layer of green moss and fallen branches. The background shows a dense forest of tall, thin trees under a bright sky.

- Faller
- Bucker
- Choker
- Yarding
- Butt cut
- Shovel logging
- Buckskin
- Hoot owl

Timber Security

A large stack of cut logs is shown on a truck. The logs are stacked in a way that shows the ends of many of them. Each log end has a red marking, likely a brand or identification mark. The logs are piled high, and the truck's metal frame is visible at the bottom. The background shows a forest with green trees.

- Truck Tickets
- Log Load Sheet
- Branding/Painting
- Wildlife Camera



11-13-2012 07:35:04

**PACK FOREST
TIMBER HARVEST MONITORING CHECKLIST**

CONTRACT LOGGER	SCULLERSON RD CONTRACTORS SALE/UNIT		D.1 Rebid Unit 1	"HR 2010"
Date of Visit	11/1/12	11/7/12	11/16/12	11/27/12
Forester Initials	DML	DML	DML	DML
BMP COMPLIANCE				
Skid road locations appropriate	### N/A	NA ✓	✓	✓
Stream crossings well designed	### NA	NA	NA	NA
Forested wetlands properly protected	✓	✓	✓	✓
Steep slope restrictions observed	NA	✓	✓	✓
Landing locations appropriate	✓	✓	✓	✓
Soil rutting and compaction minimized	✓	✓	✓	✓
Sediment delivery to streams from landings, skid and haul roads minimized	✓	✓	✓	✓
30' Equipment Limitation Zone observed	NA	NA	NA	NA
Extreme wet/dry weather plan observed	NA	NA	NA	NA
Maintain culverts	NA	NA	NA	NA
No bucking/limbing in S,F,NP streams	✓ NA	NA	NA	NA
UTILIZATION				
Logs & wood properly sorted <i>see comment</i>	✓	✓	✓	✓
Top diameter to specifications	✓	✓	✓	✓
Stump height appropriate	✓	✓	✓	✓
Appropriate yarding recovery <i>spacing</i>	✓	✓	✓	✓
All merchantable trees being felled	✓	✓	✓	✓
Satisfactory branding and painting	✓	✓	✓	✓
PROTECTION OF RESOURCES				
Bastard growth, snags, logs	✓	✓	✓	✓
Sensitive species	NA	NA	NA	NA
University property/installations	✓	✓	✓	✓
No spills and leaks	✓	✓	✓	✓
Trash cleaned up	✓	✓	✓	✓
HARVEST UNIT COMPLETION				
Slash piling/dispersal for planting	NA	NA	NA	✓
Skid roads water barred/outslopped/mulched/seeded to reduce erosion	NA	NA	NA	✓
Mitigation of 30' ELZ and other sediment stream delivery potentials	NA	NA	NA	NA

"S" indicates Satisfactory. "U" indicates Unsatisfactory

COMMENTS:

- 11/1/12 - Logs ~~being~~ ^{sent} w/ 2 Cook logs sent to R.V. and one oversized missed
- 11/7/12 - One Mu- have tree knocked down. Marked a new one. Not many snags left, but ok.
- 11/16/12 - Some (5) merchant trees - small diameter 1.5ft, but good as backup large trees
- 11/27/12 - Visited w/ DNR forester Bruce Meyer, who had nothing bad to say. Released from contract and performance bond on 11/29/12

Accounting

- Log scaling by independent third party
- Mill sends check with scale receipt and truck ticket
- Pack Forest calculates logger payments based on volume and weight on scale receipt
- Trucker collects payment from logger

WestSide U-1, 04

Load Id: 077753_2hu0srq5r

Date: 11/07/2012 Page: 1

Sequence Numbr: 7775304914
 Region#: 6
 Source/From: UW
 Dest/To: RAINIER VENEER
 Brand: UW1
 Deck: 3886
 Agency Ticket: 11508

Date: 11/07/2012
 Forest:
 Logger: SEVERSON
 Location: GRAHAM
 Scaler: 001
 DowSpec: DF
 Company Ticket: 157550

Time: 10:21:26
 District:
 Trucker: WHALG
 Setting: 0
 Sort:
 Rule: W
 Weight Ticket:

Weight Gross: 77300

Weight Tare: 26300

Weight Net: 51000

General log data

Segment Detail

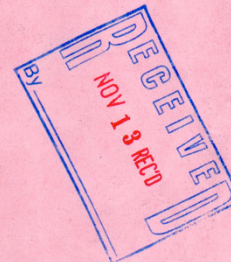
Segment Volume

Log	Sp	Cn	Len	D1	D2b	SL	Md	Rmk	Sort	Deck	LogTag	P	Grd	Dc	Lx	Lc	IntDf	Gross	Net	AdjGr	
1	DF		34	13									2M					0	210	210	0
2	DF		34	8									3M					0	70	70	0
3	DF		34	14									2M					0	240	240	0
4	DF		34	8									3M					0	70	70	0
5	DF		34	12									2M					0	170	170	0
6	DF		26	7									4M					0	40	40	0
7	DF		34	16									2M					0	340	340	0
8	DF		17	8									4M					0	30	30	0
9	DF		34	11									3M					0	150	150	0
10	DF		34	12									2M					0	170	170	0
11	DF		26	17									2M					0	300	300	0
12	DF		34	17									2M					0	390	390	0
13	DF		26	15									2M					0	230	230	0
14	DF		26	11									3M					0	110	110	0
15	DF		34	8									3M					0	70	70	0
16	DF		34	13									2M					0	210	210	0
17	DF		26	19									2M					0	390	390	0
18	DF		34	10									3M					0	130	130	0
19	DF		34	10									3M					0	130	130	0
20	DF		34	10									3M					0	130	130	0
21	DF		34	12									2M					0	170	170	0
22	DF		34	11									3M					0	150	150	0
23	DF		34	12									2M					0	170	170	0
24	DF		34	10									3M					0	130	130	0

Ttl: Logs: 24 Grs: 4200 Net: 4200 Def: 0 Pct_Def: 0.00 Pcs/abfNet: 0.57 AvLns: 31.6 AvD1: 11.8

LOG SUMMARY BY SPECIES AND SORT

Spec	Sort	Logs	Gross	Net	Adj Grs	Defect	Defect%	Avg Net
DF		24	4200	4200	0	0	0.00	175
Totals		24	4200	4200	0	0	0.00	



- Log sc
- Mill se
- ticket
- Pack F
- on vol
- Trucke

truck
 based

WestSide 9-1-01

Load Id: 677753_040802r

Date: 11/07/2012 Page: 1


Sequence #: 77753M914
 Reg: D68 5
 Source/Forest: W
 Dest/Terr: RAINIER VENEER
 Brand: W1
 Deck: 3886
 Agency Ticket: 11586

Date: 11/07/2012
 Forest:
 Logger: JEBERSON
 Location: 69040M
 Scaler: 801
 Dealer: DF
 Company Ticket: 157558

Tree: 16x21x5
 District:
 Tractor: WRL6
 Setting:
 Sorts:
 Release:
 Weight Ticket:

Weight Gross: 773

Log	Sp	Co	Ln	DI
1	DF		34	13
2	DF		34	8
3	DF		34	14
4	DF		34	8
5	DF		34	12
6	DF		26	7
7	DF		34	15
8	DF		17	8
9	DF		34	11
10	DF		34	12
11	DF		25	17
12	DF		28	12
13	DF		25	15
14	DF		25	11
15	DF		34	8
16	DF		34	13
17	DF		25	19
18	DF		34	10
19	DF		34	10
20	DF		34	10
21	DF		34	12
22	DF		34	11
23	DF		34	12
24	DF		34	10


 University of Washington
 COLLEGE OF FOREST RESOURCES
 PACK FOREST
 9010 - 453rd Street, East
 Eatonville, WA. 98328
 11507

DATE 11-2-2012 BRAND W1
 SALE NAME Logging Contract 12.1
 DESTINATION Rainier Veneer
 CONTRACTOR Saverson Road Contractors
 TRUCKER Whalen 6
 SPECIES dry fir SORT peelers
 PIECE COUNT 31 SCALE TICKET # _____
 SCALER _____

TRUCK TICKET

Totals: Logs: 24 Dest:

LOG SUMMARY BY SPECIES AND SORT

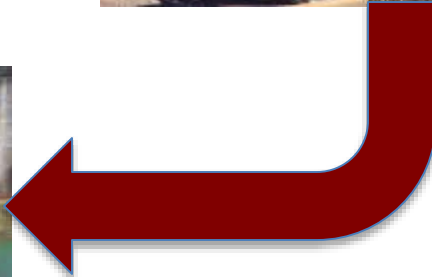
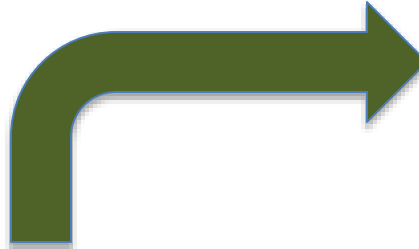
Spec	Sort	Logs	Gross	Net	Adj	Grs	Defect	Defects	Reg	Net
DF		24	4288	4090	0	0	0.00	175		
Totals		24	4288	4090	0	0	0.00			

RECEIVED
11-8-12

- Log sc
- Mill se
- ticket
- Pack F
- on vol
- Trucke

truck
s based

Accounting



LS 13.1 Accounting Summary

Pack Forest Timber Sale LS 13.1 Revenue and Volume Summary Century Unit Total Acreage = 11.8

	Actual	Estimated	%Error
<i>Volume Summary</i>			
Total Mbf:	568	532	6.3%
Total tons:	362	329	9.1%
Combined Volume (MBF)	648	605	6.6%
<i>Revenue Summary</i>			
Gross Revenue:	\$356,880.00	\$351,728.00	1.4%
Total Logging Costs	\$72,741.00	\$74,634.00	2.6%
Net Revenue	\$284,139.00	\$277,094.00	2.5%
<i>Revenue Rates Summary</i>			
Avg Gross \$/Mbf	\$551.00	\$581.00	5.4%
Avg Net \$/Mbf	\$438.00	\$458.00	4.6%
Avg Net \$/Acre	\$24,079.58	\$23,482.54	2.5%
Logging Costs as Percent of Total Revenue:	20.4%	21.2%	

That's one damn fine cruise...

Post Harvest

A photograph of a forest landscape. In the foreground, there is a large pile of dark logs and branches. The middle ground shows a dense forest of tall, thin evergreen trees. In the background, a bright rainbow is visible in the sky, arching over the trees. The sky is overcast and grey.

- Post Harvest Evaluation Checklist
- Legal Releases
 - Refund bonds and sureties
- Payment
- Legal Advertisement
- Governor's Report
- Replant!

Stumped?

