



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal
Small Sale
Sale 341-13-90

District: Tillamook

Date: March 14, 2013

cost summary

	Conifer	Hardwood	Total
Gross Timber Sale Value	\$124,999.22	\$19,480.51	\$144,479.73
		Project Work:	\$(41,040.00)
		Advertised Value:	\$103,439.73



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timber description

Location: Portion of Section 36, T3S, R10W, W.M., Tillamook County, Oregon.

Stand Stocking: 20%

SpecieName	AvgDBH	Amortization (%)	Recovery (%)
Douglas - Fir	11	0	95
Western Hemlock / Fir	14	0	95
Sitka Spruce	20	0	95
Alder (Red)	12	0	90

Volume by Grade	10" - 11"	2S	3S	4S	8" - 9"	Total
Douglas - Fir	0	22	200	223	0	445
Western Hemlock / Fir	0	47	259	86	0	392
Sitka Spruce	0	50	14	11	0	75
Alder (Red)	40	0	0	0	57	97
Total	40	119	473	320	57	1,009



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comments: Pond Values Used: 4th Quarter Calendar Year 2012.

Western redcedar and Other Cedars Stumpage Price = Pond Value
minus Logging Cost
 $\$635/\text{MBF} = \$985/\text{MBF} - \$350/\text{MBF}$

Pulp (Conifer and Hardwood) Price = $\$25/\text{MBF}$

SCALING COST ALLOWANCE = $\$5.00/\text{MBF}$

FUEL COST ALLOWANCE = $\$4.00/\text{Gallon}$

HAULING COST ALLOWANCE
Hauling cost equivalent to \$780 daily truck cost.

Other Costs (with Profit & Risk to be added):
Brand and Paint: $\$2/\text{MBF} \times 1,009 \text{ MBF} = \$2,018$
Spotter on HWY 101:
 $315 \text{ loads} \times \$18/\text{load} = \$5,670$
Spur Road Approaches: $3 \times 40 \text{ yds/approach} \times \$24/\text{yrd} = \$2,880$
TOTAL Other Costs (with Profit & Risk to be added) = $\$10,568$

Other Costs (No Profit & Risk added):
Slash Piling and Sorting: $\$5/\text{acre} \times 26 \text{ (cable) acres} = \130
Cover Material for Piles: $4 \text{ piles} \times \$5/\text{pile} = \20
Block Roads and Landings with Tank Traps: $2 \text{ traps} \times \$75/\text{each} = \150
TOTAL Other Costs (No Profit & Risk added) = $\$300$

ROAD MAINTENANCE
Spot Rocking: $20 \text{ cy/mile} \times \$24/\text{cy} \times 1.0 \text{ MMBF} \times 1.3 \text{ miles} / 1,009$
 $\text{MBF} = \$0.62/\text{MBF}$
Final Maintenance Grading: $\$500 \times 1.3 \text{ miles} / 1,009 \text{ MBF} = \$0.64/\text{MBF}$
TOTAL Road Maintenance: $\$1.26/\text{MBF}$



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logging conditions

combination#: 1

	Douglas - Fir	60.00%
	Western Hemlock / Fir	60.00%
	Sitka Spruce	60.00%
	Alder (Red)	60.00%
yarding distance:	Short (400 ft)	downhill yarding: No
logging system:	Shovel	Process: Stroke Delimber
tree size:	Small / Thinning 12in (130 Bft/tree), 12-17 logs/MBF	
loads / day:	5.0	bd. ft / load: 2,700
cost / mbf:	\$106.54	
machines:	Stroke Delimber (B)	

combination#: 2

	Douglas - Fir	40.00%
	Western Hemlock / Fir	40.00%
	Sitka Spruce	40.00%
	Alder (Red)	40.00%
yarding distance:	Short (400 ft)	downhill yarding: No
logging system:	Cable: Small Tower <=40	Process: Stroke Delimber
tree size:	Small / Thinning 12in (130 Bft/tree), 12-17 logs/MBF	
loads / day:	5.0	bd. ft / load: 2,700
cost / mbf:	\$209.94	
machines:	Log Loader (A) Stroke Delimber (A) Tower Yarder (Small)	



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal Small Sale Sale 341-13-90

District: Tillamook

Date: March 14, 2013

logging costs

Operating Seasons:	1.00	Profit Risk:	10.00%
Project Costs:	\$41,040.00	Other Costs (P/R):	\$10,568.00
Slash Disposal:	\$0.00	Other Costs:	\$300.00

Miles of Road

Road Maintenance: \$1.26

Dirt	Rock (Contractor)	Rock (State)	Paved
0.0	0.0	0.0	0.0

Hauling Costs

Species	\$ / MBF	Trips/Day	MBF / Load
Douglas - Fir	\$0.00	2.0	2.4
Western Hemlock / Fir	\$0.00	2.0	3.0
Sitka Spruce	\$0.00	2.0	2.9
Alder (Red)	\$0.00	2.0	2.1

Local Pond Values

Date	Specie	Grade	Value
3/14/13	Alder (Red)	10" - 11"	\$635.00



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal
Small Sale
Sale 341-13-90

District: Tillamook

Date: March 14, 2013

logging costs breakdown

Logging	Road Maint	Fire Protect	Hauling	Other P/R appl	Profit & Risk	Slash Disposal	Scaling	Other	Total
Douglas - Fir									
\$147.90	\$1.32	\$4.35	\$155.12	\$10.47	\$31.92	\$0.00	\$5.00	\$0.30	\$356.38
Western Hemlock / Fir									
\$147.90	\$1.32	\$4.35	\$124.09	\$10.47	\$28.81	\$0.00	\$5.00	\$0.30	\$322.24
Sitka Spruce									
\$147.90	\$1.32	\$4.35	\$128.37	\$10.47	\$29.24	\$0.00	\$5.00	\$0.30	\$326.95
Alder (Red)									
\$147.90	\$1.39	\$4.35	\$185.71	\$10.47	\$34.98	\$0.00	\$5.00	\$0.30	\$390.10

Specie	Amortization	Pond Value	Stumpage	Amortized
Douglas - Fir	\$0.00	\$519.21	\$162.83	\$0.00
Western Hemlock / Fir	\$0.00	\$435.10	\$112.86	\$0.00
Sitka Spruce	\$0.00	\$437.60	\$110.65	\$0.00
Alder (Red)	\$0.00	\$590.93	\$200.83	\$0.00



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summary

Amortized

Specie	MBF	Value	Total
Douglas - Fir	0	\$0.00	\$0.00
Western Hemlock / Fir	0	\$0.00	\$0.00
Sitka Spruce	0	\$0.00	\$0.00
Alder (Red)	0	\$0.00	\$0.00

Unamortized

Specie	MBF	Value	Total
Douglas - Fir	445	\$162.83	\$72,459.35
Western Hemlock / Fir	392	\$112.86	\$44,241.12
Sitka Spruce	75	\$110.65	\$8,298.75
Alder (Red)	97	\$200.83	\$19,480.51

Gross Timber Sale Value

Recovery: \$144,479.73

Prepared by: Bryan Huck

Phone: 503-842-2545



PROJECT SUMMARY SHEET

Sale: Small Sail

IMPROVEMENT

Point	A to B	72+20	stations =	\$24,807.06
Point	E to F	30+00	stations =	\$3,456.00
SUBTOTAL IMPROVEMENT				\$28,263.06

RECONSTRUCTION

Point	C to D	15+40	stations =	\$7,810.68
SUBTOTAL RECONSTRUCTION				\$7,810.68

SPECIAL PROJECTS

Brushing-	3.9 miles including Bunn Creek Area	\$3,120.00
SUBTOTAL SPECIAL PROJECTS		\$3,120.00

MOVE IN	\$1,846.26
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GRAND TOTAL	\$41,040.00
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SUMMARY OF CONSTRUCTION COST

Sale:			<u>Small Sail</u>			Road:			<u>A to B</u>			
<u>Construction</u> -			0+00	stations	<u>Improvement</u> -			72+20	stations	<u>Reconstruction</u> -		
			0.00	miles				1.37	miles			

IMPROVEMENT: CLEARING AND GRUBBING -

Roadside Brushing- See Summary Page

Side cast -Endhaul/Move to stable Location	0.070	acres @	\$1,500.00	per acre =	\$105.00	
Widening- Endhaul/Move to stable Location	0.028	acres @	\$1,500.00	per acre =	\$42.00	
Endhaul/Move to stable Location	0.200	acres @	\$1,500.00	per acre =	\$300.00	
TOTAL CLEARING AND GRUBBING						\$447.00

IMPROVEMENT: EXCAVATION -

Road Earthwork - Bunch Ditchline Material & Endhaul	34.00	sta. @	\$70.00	per sta. =	\$2,380.00	
Road Earthwork - Bunch Ditchline Mat. & Scatter Outside Road Prism	36.00	sta. @	\$40.00	per sta. =	\$1,440.00	
Pullback	223	cy. @	\$1.40	per c.y.=	\$312.20	
Widening	87	cy. @	\$1.40	per c.y.=	\$121.80	
Remove outside berm	150	cy. @	\$1.40	per c.y.=	\$210.00	
TOTAL EXCAVATION						\$4,464.00

IMPROVEMENT: ENDHAUL -

Pullback	18+75	to	20+40	120	cy. @	\$3.91	per c.y.=	\$469.20	
Pullback	21+00	to	21+30	22	cy. @	\$3.91	per c.y.=	\$86.02	
Pullback	21+50	to	22+60	81	cy. @	\$2.63	per c.y.=	\$213.03	
Widening	20+60	to	21+80	87	cy. @	\$3.91	per c.y.=	\$340.17	
Remove outside berm	20+30	to	20+80	150	cy. @	\$3.91	per c.y.=	\$586.50	
Spread & compact				460	cy. @	\$0.30	per c.y.=	\$138.00	
TOTAL ENDHAUL									\$1,832.92

ROCK

0+00 to 34+10	410	cy. of	Crushed	@	\$25.95	per c.y.=	\$10,639.50	
54+30 to 56+80	80	cy. of	Crushed	@	\$24.45	per c.y.=	\$1,956.00	
Spot rock 34+00 - 63+75	50	cy. of	Crushed	@	\$25.95	per c.y.=	\$1,297.50	
Leveling 13+00-16+00	40	cy. of	Crushed	@	\$24.45	per c.y.=	\$978.00	
TOTAL ROCK								\$14,871.00

SPECIAL PROJECTS

Unplug culvert @ Sta. 15+40 -	1.00	hour @	\$40.00	per hour	\$40.00	
Grade and shape road -	72.20	stations @	\$15.50	per station	\$1,119.10	
Roll subgrade w/ vibratory roller -	72.20	stations @	\$13.20	per station	\$953.04	
Grass seed and fertilize -	1.00	acre @	\$220.00	per acre	\$220.00	
Mulching - Sidecast pullback area, road widening and waste area	0.400	acres @	\$600.00	per acre	\$240.00	
TOTAL SPECIAL PROJECTS						\$3,192.14

GRAND TOTAL **\$24,807.06**

SUMMARY OF CONSTRUCTION COST

Sale:

Small Sail

Road:

C to D

Construction -	0+00	stations	Improvement -	0+00	stations	Reconstruction -	15+40	stations
	0.00	miles		0.00	miles		0.29	miles

RECONSTRUCTION: CLEARING AND GRUBBING -

Scattering	0.420	acres	@	\$980.00	per acre =	\$411.60	
TOTAL CLEARING AND GRUBBING							\$411.60

RECONSTRUCTION: EXCAVATION -

Road Earthwork	15.40	sta.	@	\$225.00	per sta. =	\$3,465.00	
TOTAL EXCAVATION							\$3,465.00

CULVERTS - MATERIALS & INSTALLATION

Culverts

0 LF of 18" \$0.00 40 LF of 24" \$1,080.00

Culvert Stakes & Markers

1 markers \$8.00
\$8.00

TOTAL CULVERTS \$1,088.00

ROCK

0+00	to	1+00	40	cy. of	Crushed	@	\$24.45 per c.y.=	\$978.00	
4+20	to	5+20	40	cy. of	Crushed	@	\$24.45 per c.y.=	\$978.00	
TOTAL ROCK									\$1,956.00

SPECIAL PROJECTS

Construct Landing/TA -	1	@	\$285.00	each	\$285.00	
Grade and shape road -	15.40	stations @	\$17.00	per station	\$261.80	
Roll subgrade w/ vibratory roller -	15.40	stations @	\$13.20	per station	\$203.28	
Grass seed and fertilize -	0.50	acres @	\$220.00	per acre	\$110.00	
Mulching -	0.050	acres @	\$600.00	per acre	\$30.00	
TOTAL SPECIAL PROJECTS						\$890.08

GRAND TOTAL \$7,810.68

SUMMARY OF CONSTRUCTION COST

Sale: Small Sail			Road: E to F		
Construction -	0+00	stations	Improvement -	30+00	stations
	0.00	miles		0.57	miles
Reconstruction -	0+00	stations			
	0.00	miles			

IMPROVEMENT: CLEARING AND GRUBBING -
Roadside Brushing See Summary Page

ROCK					
Spot Rock	0+00 to 30+00	100	cy. of	Crushed	@
					\$25.95 per c.y.=
					\$2,595.00
					TOTAL ROCK
					\$2,595.00

SPECIAL PROJECTS					
Grade and shape road -		30.00	stations @	\$15.50	per station
Roll subgrade w/ vibratory roller -		30.00	stations @	\$13.20	per station
					\$465.00
					\$396.00
					TOTAL SPECIAL PROJECTS
					\$861.00
					GRAND TOTAL
					\$3,456.00

ROCK COST SUMMARY

Source: Commercial Source

Sale: Small Sall

Rock Total: 760 c.y.

Road Segment		Proc Cost \$/cu.yd.	Base Cost. \$/cu.yd.	Cost \$/cu.yd.	Number Cu. Yds	ROCK COST
A to B 0 3410 (Crushed)	1 1/2"-0"	2.45	23.50	25.95	410	\$10,639.50
A to B 5430 5680 (Crushed)	3"-0"	2.45	22.00	24.45	80	\$1,956.00
A to B Spot rock (Crushed)	1 1/2"-0"	2.45	23.50	25.95	50	\$1,297.50
A to B Leveling (Crushed)	3"-0"	2.45	22.00	24.45	40	\$978.00
C to D 0 100 (Crushed)	3"-0"	2.45	22.00	24.45	40	\$978.00
C to D 420 520 (Crushed)	3"-0"	2.45	22.00	24.45	40	\$978.00
E to F Spot Rock (Crushed)	1 1/2"-0"	2.45	23.50	25.95	100	\$2,595.00
Total C.Y.					760	Sub Total
						\$19,422.00

TOTAL ROCKING COSTS	\$19,422.00
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Move-In Calculations for Project Work not Involving Rocking/Pit Work

Sale: **Small Sail**

LOWBOY HAUL (Round Trip)		
DIST. (mi)	ROADWAY	AVE SPEED (mph)
30.0	Pavement	30
1.0	Main Lines	7
1.0	Steep Grades	2

No.	EQUIPMENT DESCRIPTION	Move in Cost	Pilot Cars	Within Area Move (\$/mile)	Begin Mileage	End Mileage	Total Miles	Within Area Cost	Total Cost
1	Brush Cutter	\$235.75		\$4.00	0.00	2.00	2	\$8.00	\$243.75
1	Grader	\$263.57		\$3.65	0.00	0.00	0	\$0.00	\$263.57
1	Roller (smooth/grid) & Compactors	\$247.25		\$5.00	0.00	0.00	0	\$0.00	\$247.25
1	Excavator (Large)	\$416.30	1	\$44.80	0.00	2.00	2	\$89.60	\$505.90
1	Tractor (D7)	\$388.29	2	\$11.30	0.00	2.00	2	\$22.60	\$410.89
1	Dump Truck (10 cy +)	\$90.00		\$2.85	0.00	2.00	2	\$5.70	\$95.70
1	Water Truck (1500 Gal)	\$73.50		\$2.85	0.00	2.00	2	\$5.70	\$79.20
				TOTAL MOVE-IN COSTS:				\$1,846.26	



OREGON DEPARTMENT OF FORESTRY CRUISE REPORT

Small Sail

1. **Type of Sale**

Regeneration harvest, Recovery.

2. **Legal Description**

Section 36, T3S, R10W, W.M., Tillamook County, Oregon.

3. **Sale Acreage**

Sale acreage was determined by GPS and orthophotographs along with GIS.

	ACRES	
	<u>Gross</u>	<u>Net</u>
Area 1 (Clearcut)	82	65

Gross Acres

Area within the Timber Sale Boundary signs

Net acres

Used for calculating the advertised volume.

Gross acres, less green tree retention, roads, Non-required thinning areas, and riparian areas classified as Special Stewardship in LMCS inside the sale boundary.

4. **Cruising Procedures**

A. Cruise Method

A total of 15 plots were sampled. Odd numbered lines were sampled for a plot spacing of 1400'x350'. All plots were full cruise plots. All conifers 6 inches DBH and greater containing 20 net board feet and all hardwoods 7 inches DBH and greater containing 30 net board feet were recorded on all plots. Species were recorded on all trees and measured for merchantable bole height, diameter, and form factor.

B. Plot size

A basal area factor of 34 was used for this sale. The point of observation is 4.5 feet.

C. Grading System

All species were graded using Columbia River Log Scaling and Grading Bureau rules favoring a 40' log.

5. **Computation Procedure**

The volumes and statistics for the timber cruised were computed using SuperACE 2004, developed by Atterbury Consultants, Inc. The standard error and the coefficient of variation for the cruise as based on net board feet per acre are 13%

and 50% respectively.

6. Hidden Defect and Breakage

A 5% reduction was applied to conifers and a 10% reduction to hardwood volumes for hidden defect and breakage. This was in addition to visual defect deducted during the cruise.

7. Timber Description

The stand was planted in the early 70's and received a PCT in 2005. The PCT activity in this stand contributes to the low stocking levels, and has resulted in large amounts of coarse woody debris. The Douglas-fir in this stand is suffering from Swiss Needle Cast, and is showing signs of very slow growth and low needle retention.

Sale Area – Species	DBH	Merchantable Bole Height	Merchantable Top
Area 1 - Douglas-fir	10.7	39	6"
Area 1 - Alder	12.2	33	7"
Area 1 - Sitka Spruce	19.6	41	6"
Area 1 - Western Hemlock	13.9	55	6"

8. Cruiser Names/Dates

Dave Luttrell; 8/8/2011

9. Revenue Distribution

FDF 100%

Tax Code: 8

Deed Numbers: 186

10. Attachments

Volume Summaries

Log Stock Tables

Logging Plan Map

11. Stand and Log Stock Tables Species Key

DL – Douglas-fir leave

DF – Douglas-fir take

RL – Red alder leave

RA – Red alder take

RC – Western red cedar reserved

SL – Sitka spruce leave

SS – Sitka spruce take
WL – Western hemlock leave
WH – Western hemlock take

TC		PLOGSTVB		Log Stock Table - MBF																
T03S R10W S36 Ty0100 65.00				Project: Acres		SAILING 65.00		Page 2 Date 1/9/2013 Time 6:36:25AM												
S T	Spp	So rt	Gr de	Log Len	Gross MBF	Def %	Net MBF	% Spc	Net Volume by Scaling Diameter in Inches											
									2-3	4-5	6-7	8-9	10-11	12-13	14-15	16-19	20-23	24-29	30-39	40+
	RA	H	4	40	4		4	3.4			4									
	RA	H	4	41	18		18	16.4			18									
	RA	Totals			110	2.8	107	10.1			58	30		20						
	SS	CO	2	29	7		7	9.0					7							
	SS	CO	2	32	32		32	40.1					32							
	SS	CO	2	40	16	9.9	14	18.3								14				
	SS	CO	3	32	12		12	14.6					12							
	SS	CO	3	40	3		3	3.6					3							
	SS	CO	4	15	1		1	1.3		1										
	SS	CO	4	17	1		1	1.5		1										
	SS	CO	4	18	1		1	1.4		1										
	SS	CO	4	21	3		3	3.5		3										
	SS	CO	4	23	2		2	2.1		2										
	SS	CO	4	33	5	25.0	4	4.5		4										
	SS	Totals			82	3.4	79	7.4		11			14	39			14			
	WH	CO	2	40	50	1.2	50	12.0					17		13		20			
	WH	CO	3	32	57	5.8	54	13.0			48			6						
	WH	CO	3	40	222	1.3	219	53.2			4	106	109							
	WH	CO	4	13	1		1	.2			1									
	WH	CO	4	15	3		3	.8		3										
	WH	CO	4	17	3		3	.8		2		1								
	WH	CO	4	18	8		8	1.8		8										
	WH	CO	4	19	6		6	1.4		6										
	WH	CO	4	22	8		8	2.0		8										
	WH	CO	4	23	4		4	1.0		4										
	WH	CO	4	26	5		5	1.2		5										
	WH	CO	4	28	3		3	.6		3										
	WH	CO	4	30	9		9	2.1		9										
	WH	CO	4	31	15		15	3.5		15										
	WH	CO	4	32	8		8	2.0		8										
	WH	CO	4	35	4		4	.9		4										
	WH	CO	4	36	14		14	3.3		14										
	WH	Totals			419	1.6	412	38.6		88	4	156	109	17	6	13	20			
	Total	All Species			1,084	1.6	1,067	100.0		321	236	220	136	88	19	13	20	14		

T	Species, Sort Grade - Board Foot Volumes (Type)													Page	1				
Project: SAILING															Date	11/19/2012			
															Time	8:49:22AM			
T03S R10W S36 T0100															T03S R10W S36 T0100				
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt										
03S	10W	36	176	0100	65.00	15	88	S	W										
S So Gr T rt ad Spp			% Net BdFt	Bd. Ft. per Acre			Total Net MBF	Percent Net Board Foot Volume								Average Log			Logs Per /Acre
			Def%	Gross	Net	Log Scale Dia.				Log Length				Ln Ft	Bd Ft	CF/ Lf			
DF	CO	2	5	393	393	26	100				100				40	264	2.00	1.5	
DF	CO	3	45	1.4	3,277	3,233	210	100				61 39				35	64	0.54	50.3
DF	CO	4	50	.6	3,609	3,588	233	95	5	24	45	14	16	25	26	0.28	138.1		
DF	Totals		44	.9	7,280	7,214	469	47	47	5	12	23	34	31	28	38	0.38	189.9	
WH	CO	2	12	1.2	773	764	50	34 66				100				40	405	2.60	1.9
WH	CO	3	66	2.2	4,296	4,201	273	98 2				20 80				38	112	0.78	37.6
WH	CO	4	22		1,380	1,380	90	98	2	23	32	30	15	26	27	0.29	51.8		
WH	Totals		39	1.6	6,448	6,344	412	21	65	5	8	5	7	20	69	31	70	0.60	91.3
RA	H	3	41	2.6	701	683	44	55	45	45	25	29		26	86	0.82	7.9		
RA	H	4	59	2.9	998	969	63	100		23	19	9	49	26	37	0.44	26.3		
RA	Totals		10	2.8	1,698	1,652	107	81	19	32	22	6	41	26	48	0.53	34.2		
SS	CO	2	67	2.9	842	818	53	73 27				13	59	27	32	240	2.36	3.4	
SS	CO	3	18		222	222	14	100				80 20		33	146	1.35	1.5		
SS	CO	4	15	9.5	191	173	11	100		30	39	32			23	22	0.48	7.7	
SS	Totals		7	3.4	1,255	1,212	79	14	18	49	18	4	15	59	22	27	96	1.22	12.7
Type Totals				1.6	16,681	16,422	1,067	30	55	10	4	11	16	28	46	28	50	0.49	328.0

TC		PSTNDSUM											Stand Table Summary											Page		1			
																								Date:		1/9/2013			
T03S R10W S36 Ty0100					65.00					Project					SAILING					Time:					6:36:26AM				
										Acres					65.00					Grown Year:									
S SpC	T	Tot							Average Log		Net		Net		T o t a l s														
		DBH	Sample Trees	FF 16'	Av Ht	Trees/ Acre	BA/ Acre	Logs Acre	Net Cu.Ft.	Net Bd.Ft.	Tons/ Acre	Cu.Ft. Acre	Bd.Ft. Acre	Tons	Cunits	MBF													
DF		8	4	81	52	25.676	8.96	25.68	5.8	27.5	4.27	150	706	278	97	46													
DF		9	8	81	57	40.575	17.93	40.57	7.7	30.0	8.91	313	1,217	579	203	79													
DF		10	6	82	80	24.649	13.44	36.97	8.7	34.4	9.21	323	1,274	599	210	83													
DF		11	2	82	71	6.790	4.48	10.19	10.9	40.0	3.15	111	407	205	72	26													
DF		12	8	81	74	22.823	17.93	39.94	11.1	37.9	12.67	445	1,512	824	289	98													
DF		13	4	81	80	9.724	8.96	19.45	12.7	41.2	7.05	247	802	458	161	52													
DF		14	3	81	66	6.288	6.72	8.38	19.9	50.0	4.75	167	419	308	108	27													
DF		16	1	81	79	1.605	2.24	3.21	21.1	65.0	1.93	68	209	126	44	14													
DF		18	1	81	81	1.268	2.24	2.54	27.0	85.0	1.95	69	216	127	45	14													
DF		23	1	82	76	.777	2.24	1.55	43.9	135.0	1.95	68	210	126	44	14													
DF		24	1	83	90	.713	2.24	1.43	52.5	170.0	2.14	75	242	139	49	16													
DF		Totals	39	81	66	140.888	87.39	189.91	10.7	38.0	57.99	2,035	7,214	3,769	1,323	469													
WH		9	2	86	62	10.566	4.67	10.57	8.1	35.0	2.75	86	370	179	56	24													
WH		10	1	85	51	4.279	2.33	4.28	9.3	30.0	1.27	40	128	82	26	8													
WH		13	5	88	87	12.661	11.67	25.32	14.5	55.0	11.73	367	1,393	763	238	91													
WH		14	5	87	79	10.917	11.67	21.83	16.1	62.0	11.27	352	1,354	733	229	88													
WH		15	2	86	79	3.804	4.67	7.61	18.7	72.5	4.55	142	552	296	92	36													
WH		16	1	87	82	1.672	2.33	3.34	23.3	85.0	2.50	78	284	162	51	18													
WH		17	3	86	83	4.442	7.00	8.88	25.7	88.3	7.29	228	785	474	148	51													
WH		18	2	88	81	2.642	4.67	5.28	28.3	102.5	4.78	149	542	311	97	35													
WH		20	1	87	100	1.070	2.33	2.14	42.2	150.0	2.89	90	321	188	59	21													
WH		31	1	85	69	.445	2.33	.89	76.4	235.0	2.18	68	209	141	44	14													
WH		34	1	83	106	.370	2.33	1.11	85.2	366.7	3.03	95	407	197	61	26													
WH		Totals	24	87	76	52.868	56.02	91.26	18.6	69.5	54.23	1,695	6,344	3,525	1,102	412													
RA		9	1	87	26	5.072	2.24	5.07	4.6	20.0	.65	24	101	42	15	7													
RA		10	1	88	17	4.108	2.24	4.11	5.9	20.0	.67	24	82	44	16	5													
RA		11	2	84	58	6.790	4.48	6.79	13.0	55.0	2.44	89	373	158	58	24													
RA		12	2	88	67	5.706	4.48	8.56	13.2	46.7	3.12	113	399	203	74	26													
RA		15	2	87	77	3.652	4.48	7.30	18.9	70.0	3.80	138	511	247	90	33													
RA		17	1	88	31	1.422	2.24	1.42	19.6	90.0	.77	28	128	50	18	8													
RA		21	1	80	48	.932	2.24	.93	52.0	60.0	1.33	48	56	87	32	4													
RA		Totals	10	86	49	27.681	22.41	34.19	13.6	48.3	12.76	464	1,652	830	302	107													
SS		14	1	75	26	2.096	2.24	2.10	4.6	20.0	.69	10	42	45	6	3													
SS		15	1	82	42	1.826	2.24	1.83	22.5	30.0	1.07	41	55	69	27	4													
SS		18	1	83	71	1.268	2.24	2.54	24.0	80.0	1.58	61	203	103	40	13													
SS		21	1	85	60	.932	2.24	1.86	31.1	105.0	1.51	58	196	98	38	13													
SS		22	1	84	60	.849	2.24	1.70	33.3	105.0	1.47	56	178	95	37	12													
SS		23	1	82	56	.777	2.24	1.55	34.4	105.0	1.39	53	163	90	35	11													
SS		26	1	83	43	.608	2.24	.61	66.8	180.0	1.06	41	109	69	26	7													
SS		41	1	74	104	.244	2.24	.49	184.8	545.0	2.35	90	266	153	59	17													
SS		Totals	8	81	49	8.599	17.93	12.67	32.4	95.7	11.11	410	1,212	722	267	79													
Totals		81	83	66		230.036	183.73	328.02	14.0	50.1	136.10	4,604	16,422	8,846	2,993	1,067													



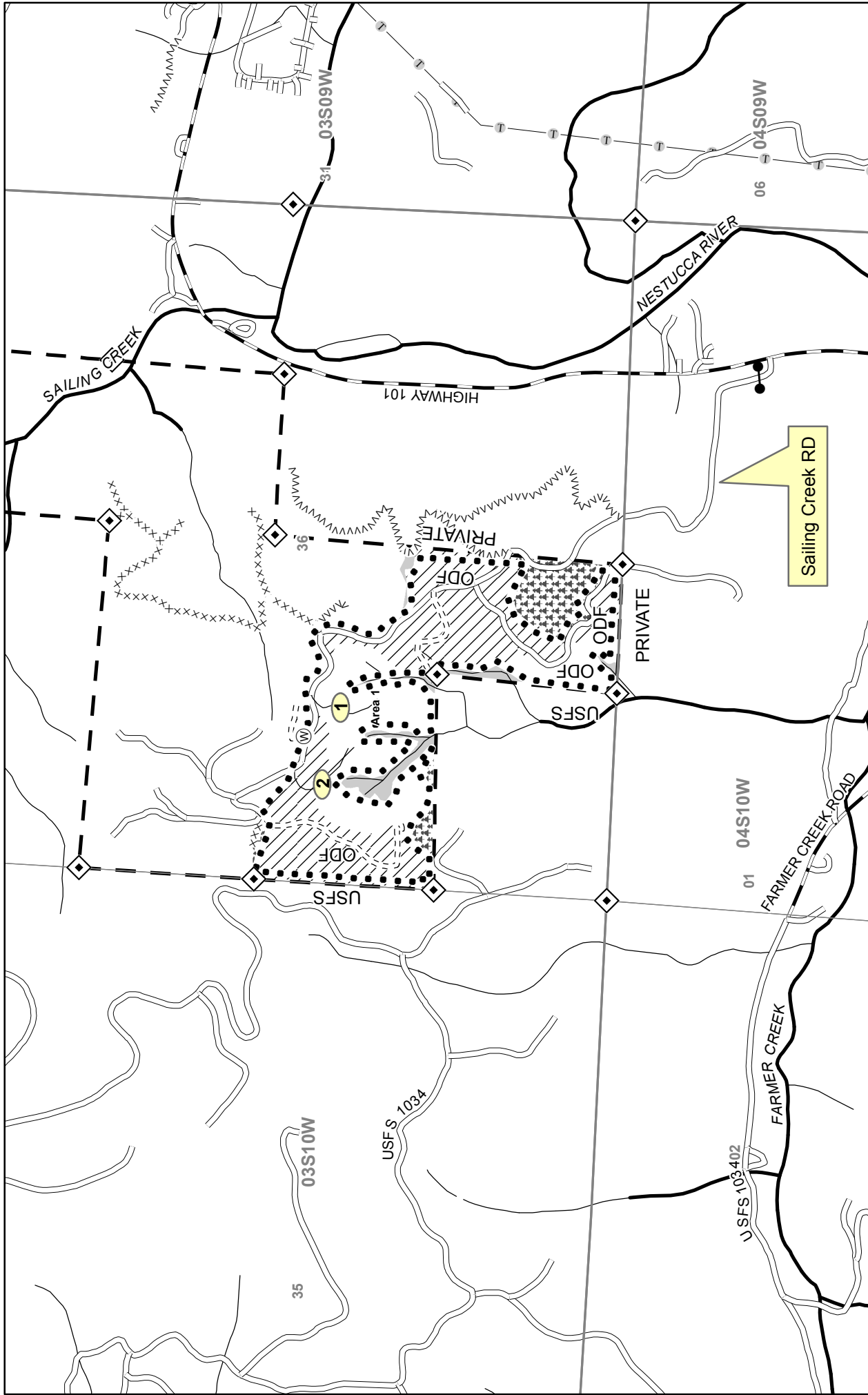
"STEWARDSHIP IN FORESTRY"

Small Sail

Volume Summary

Area 1-Harvest Type				
65 acres				
SPECIES	Cruised Net MBF/ Acre	Cruised Net MBF	Hidden D&B	Net Sale MBF
Douglas-fir	7.2	469	5%	445
Hemlock	6.3	412	5%	392
Spruce	1.2	79	5%	75
Noble Fir	0.0	0	5%	0
Alder	1.7	107	10%	97
TOTAL	16.4	1067		1009

TOTAL SALE VOLUME			65	acres
SPECIES	Cruised Net (MBF)		Net Sale (MBF)	
Douglas-fir	469		445	
Hemlock	412		392	
Spruce	79		75	
Noble Fir	0		0	
Red Alder	107		97	
TOTAL	1067		1009	



LOGGING PLAN

Timber Sale Contract No. 341-13-090

SMALL SAIL

Portions of Section 36,

T3S, R10W, W.M.,

Tillamook County, Oregon

Type of	Area	Operation	Modified	Clearcut	Gross	Net
1	1	1	1	1	82	65

Tillamook District GIS

3/18/2013

This product is for informational use and may not have been prepared or suitable for legal, engineering, or surveying purposes.

