



"STEWARDSHIP IN FORESTRY"

# Timber Sale Appraisal Buck Ridge

Sale GP-341-2015-88-

District: Southwest

Date: April 23, 2015

## Cost Summary

	Conifer	Hardwood	Total
Gross Timber Sale Value	\$68,404.32	\$7,950.00	\$76,354.32
		Project Work:	(\$19,580.00)
		Advertised Value:	\$56,774.32



"STEWARDSHIP IN FORESTRY"

# Timber Sale Appraisal Buck Ridge

Sale GP-341-2015-88-

District: Southwest

Date: April 23, 2015

---

## Timber Description

**Location:** Portions of Section 14, T32S, R6W, W.M., Douglas County, Oregon.

**Stand Stocking:** 40%

Specie Name	AvgDBH	Amortization (%)	Recovery (%)
Douglas - Fir	15	0	90
Madrone	13	0	90
Chinkapin	15	0	90

Volume by Grade	2S	3S	4S	Total
Douglas - Fir	104	118	46	268
Madrone	0	0	203	203
Chinkapin	0	0	62	62
<b>Total</b>	104	118	311	533

**Comments:** Pond Values Used: 1st Quarter Calendar Year 2015 and Local Pond Values

Grand Fir and Other Conifers Stumpage Price = Pond Value minus Logging Cost:  
 $\$200/\text{MBF} = \$550/\text{MBF} - \$350/\text{MBF}$

Sugar Pine and Other Pines Stumpage Price = Pond Value minus Logging Cost:  
 $\$150/\text{MBF} = \$415/\text{MBF} - \$265/\text{MBF}$

Incense Cedar and Other Cedars Stumpage Price = Pond Value minus Logging Cost:  
 $\$300/\text{MBF} = \$600/\text{MBF} - \$300/\text{MBF}$

Removal of madrone/hardwoods is optional. If harvested, removal of hardwoods is required to an 8 inch top diameter.

Cost of piling un-merchantable material in the tractor logging portion of area II: \$300/acre on approximately 6 acres.

SCALING COST ALLOWANCE = \$5.00/MBF

FUEL COST ALLOWANCE = \$3.00/Gallon

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

Other Costs (with Profit & Risk to be added):  
None.

Other Costs (No Profit & Risk added):  
None.



"STEWARDSHIP IN FORESTRY"

# Timber Sale Appraisal Buck Ridge

Sale GP-341-2015-88-

**District: Southwest**

**Date: April 23, 2015**

---

## Logging Conditions

**Combination#: 1**

Douglas - Fir	81.90%
Madrone	80.91%
Chinkapin	89.92%

**Logging System:** Cable: Small Tower <=40      **Process:** Manual Falling/Delimbing

**yarding distance:** Short (400 ft)      **downhill yarding:** No

**tree size:** Small / Thinning 12in (130 Bft/tree), 12-17 logs/MBF

**loads / day:** 6      **bd. ft / load:** 3700

**cost / mbf:** \$279.28

**machines:** Log Loader (A)  
Tower Yarder (Small)

---

**Combination#: 2**

Douglas - Fir	18.10%
Madrone	19.09%
Chinkapin	10.08%

**Logging System:** Track Skidder      **Process:** Manual Falling/Delimbing

**yarding distance:** Short (400 ft)      **downhill yarding:** No

**tree size:** Small / Thinning 12in (130 Bft/tree), 12-17 logs/MBF

**loads / day:** 12.5      **bd. ft / load:** 3700

**cost / mbf:** \$96.33

**machines:** Log Loader (B)  
Track Skidder

---



"STEWARDSHIP IN FORESTRY"

# Timber Sale Appraisal Buck Ridge

Sale GP-341-2015-88-

District: Southwest

Date: April 23, 2015

## Logging Costs

Operating Seasons: 1.00

Profit Risk: 13%

Project Costs: \$19,580.00

Other Costs (P/R): \$0.00

Slash Disposal: \$0.00

Other Costs: \$0.00

Miles of Road

Road Maintenance: \$0.00

Dirt	Rock (Contractor)	Rock (State)	Paved
3.0	0.0	2.0	0.0

### Hauling Costs

Species	\$ / MBF	Trips/Day	MBF / Load
Douglas - Fir	\$0.00	3.0	3.5
Madrone	\$0.00	3.0	2.5
Chinkapin	\$0.00	3.0	2.5

### Local Pond Values

Date	Specie	Grade	Value
04/23/2015	Madrone	4S	\$411.19
04/23/2015	Chinkapin	4S	\$427.67
04/23/2015	Douglas - Fir	4S	\$620.00
04/23/2015	Douglas - Fir	3S	\$640.00
04/23/2015	Douglas - Fir	2S	\$660.00



"STEWARDSHIP IN FORESTRY"

# Timber Sale Appraisal Buck Ridge

Sale GP-341-2015-88-

District: Southwest

Date: April 23, 2015

## Logging Costs Breakdown

Logging	Road Maint	Fire Protect	Hauling	Other P/R appl	Profit & Risk	Slash Disposal	Scaling	Other	Total
<b>Douglas - Fir</b>									
\$246.17	\$3.78	\$8.23	\$81.72	\$0.00	\$44.19	\$0.00	\$5.00	\$0.00	\$389.09
<b>Madrone</b>									
\$244.36	\$3.78	\$0.00	\$114.40	\$0.00	\$18.65	\$0.00	\$0.00	\$0.00	\$381.19
<b>Chinkapin</b>									
\$260.84	\$3.78	\$0.00	\$114.40	\$0.00	\$18.65	\$0.00	\$0.00	\$0.00	\$397.67

Specie	Amortization	Pond Value	Stumpage	Amortized
Douglas - Fir	\$0.00	\$644.33	\$255.24	\$0.00
Madrone	\$0.00	\$411.19	\$30.00	\$0.00
Chinkapin	\$0.00	\$427.67	\$30.00	\$0.00



"STEWARDSHIP IN FORESTRY"

# Timber Sale Appraisal Buck Ridge

Sale GP-341-2015-88-

District: Southwest

Date: April 23, 2015

## Summary

### Amortized

Specie	MBF	Value	Total
Douglas - Fir	0	\$0.00	\$0.00
Madrone	0	\$0.00	\$0.00
Chinkapin	0	\$0.00	\$0.00

### Unamortized

Specie	MBF	Value	Total
Douglas - Fir	268	\$255.24	\$68,404.32
Madrone	203	\$30.00	\$6,090.00
Chinkapin	62	\$30.00	\$1,860.00

### Gross Timber Sale Value

Recovery: \$76,354.32

Prepared By: Joanna Delegan

Phone: 541-474-3152

## TIMBER SALE SUMMARY

Buck Ridge

Contract No. 341-15-88

1. **Type of Sale:** Recovery sale, sealed bid auction of 46.66 acres of thinning and 27.42 acres of clearcut.
2. **Revenue Distribution:** 100% BOF
3. **Sale Acreage:** For the sale, 74.08 net acres were used for the cruise expansion. The ROW volume was within the Clearcut in Area II. Acreage was determined with ArcGIS 10.1 and GPS control points.
4. **Volume:** Take trees are marked in blue in the thinning units (areas I and III). Individual Green Tree Retention (GTR) trees are marked in red. Patches of GTR are marked with yellow "Area Boundary" signs. Area I conifer were marked to a 30 foot spacing and Area III Conifer were marked to a 20 foot spacing. Hardwoods to be retained in Area I are marked with red paint. All hardwoods marked with red paint and madrone and chikapin over 20 inches will be retained in the clearcut unit (area II).

SPECIES	2 SAW	3 SAW	4 SAW	NET VOL (MBF)
Douglas-fir	104	118	46	268
Madrone			203	203
Chinkapin			62	62
<b>Total</b>	<b>104</b>	<b>118</b>	<b>311</b>	<b>533</b>

5. **Cruise Data:** The total volume above is measured to 7.27% sampling error, meaning the actual volume will fall between 494 and 572 MBF (68% of the time). The volume of individual species will be more variable due to the smaller sample compared to the total volume sample. See the cruise report for more detail.
6. **Timber Description:** The timber has been marked to remove the smaller trees in suppressed and intermediate canopy positions, and to release dominant and codominant trees. Additionally, dominant trees have been marked for harvest where possible to improve the economics of the sale and improve the quality of the residual stand. The stand age is 63-74 years. The averages for DBH for take trees are: Douglas-fir 15", madrone 13", chinkapin 15". The cruise report gives a breakdown of log lengths and scaling diameters by species for the combined cruise.
7. **Topography and Logging Method:** The sale is designed for a small or medium size yarder and a skidder over a portion of area II. There are roads on the east and uphill side of Area I and on both sides of Area II, and the uphill side of Area III. Slopes range from 30% to 50% in the sale area. There are draws in Area I and Area II that will need to be carefully logged around.
8. **Access:** All hauling routes are located on state maintained roads. The appraisal includes road blading and maintenance during the sale. A winter haul option is available for logging with added road improvement at the purchaser's expense. Details are included in the sale prospectus.



**9. Projects:**

Project 1: Road improvement, culvert installation, and new construction: \$16,610.00

Project 2: Road Improvement: \$1,170.00

Project 3: Piling Non-Merchantable Sash Material: \$1,800.00

Total Project Costs: \$19,580.00

**10. Road Maintenance:** The appraisal includes \$3.78/MBF for road maintenance (grading, pulling ditches, etc.).

**11. Other Costs:** The appraisal includes \$5/ MBF for Scaling and \$3.75/MBF for slash disposal. Costs not accounted for in the appraisal are the responsibility of the Purchaser.

**12. Slash Disposal:** Purchaser will pile slash on landings with an excavator or log loader, sorting out firewood into a separate pile. ODF will burn the slash piles.

Buck Ridge  
PROJECT SUMMARY

**Project Summary:** 341-15-88

**Sale**

**Name:** Buck Ridge

<b>Project 1</b>	<b>Segment</b>	<b>Miles</b>	<b>Activity</b>	<b>Cost</b>
	A to B	0.518371	Road Construction	\$12,330.00
	Station 27+37		Culvert Installation	\$1,280.00
			Mobilization	3,000.00
			<b>Subtotal</b>	<b>16,610.00</b>

<b>Project 2</b>	<b>Segment</b>	<b>Miles</b>	<b>Activity</b>	<b>Per Unit Cost</b>
	C to D	0.390909	Road Improvement (6 HR * \$90/HR)	\$540.00
	A to C	0.154545	Road Improvement (3 HR * \$90/HR)	\$270.00
	D to E	0.254735	Road Improvement (4HR * \$90/HR)	\$360.00
			<b>Subtotal</b>	<b>\$1,170.00</b>

<b>Project 3</b>	<b>Area</b>	<b>Acres</b>	<b>Activity</b>	<b>Per Acre Cost</b>
	II	6	Piling Non-Merchantable Slash Material (area II)	\$300.00
			<b>Subtotal</b>	<b>\$1,800.00</b>

<b>Total Project Cost</b>	<b>\$19,580.00</b>
---------------------------	--------------------

OREGON DEPARTMENT OF FORESTRY  
CRUISE REPORT

SALE NAME: Buck Ridge

SALE NUMBER: 341-15-88

1. **Acreage Calculation:** There are 74.08 net cruise acres in the sale area determined by a combination of GPS traverse waypoints and ArcGIS 10.2 software. Net acres do not include the riparian management areas, regeneration areas within the stand, and non-stocked areas which were not cruised.
2. **Cruise Method:** Buck Ridge was cruised by ODF during the Fall of 2014. A variable plot cruise was conducted on 3 harvest areas, each of which were treated as individual strata.
3. **RIGHT of WAY VOLUMES:** The road right-of-way in Area II was assigned the same per acre volumes as its respective area, and expanded by the area of the right of way to estimate the total volume for removal.
4. **Sampling Intensity:**  
# Plots 70 Total Plots (36 measured, 34 counted)  
CV (BDFT) 58%  
SE (BDFT) 6.94

As per ODF standards, total harvest volume of conifers and hardwoods ("take" trees) is estimated to be 533 MBF  $\pm$  39 MBF at the 68% confidence level and a sampling error of 7.27%\*\*. (68 times out of 100 the volume estimate will be within range of error specified).

5. **Computation Procedures:** Volume was computed using the SuperACE cruise program. Volumes reported are based on the Scribner Log Rule (West).
6. **Form Factors:** Form factors (a ratio of diameter at 4 and 16 feet) were sampled across the diameter distribution in all strata. Those form factors which were not measured were estimated by SuperACE.
7. **Height Standards:** Most conifer trees were measured for total height with a laser rangefinder.
8. **Diameter standards:** Diameters were measured outside bark at breast height to the nearest inch.
9. **Grading System:** Trees were graded primarily as 34 foot segments lengths and according to the Official Log Scaling and Grading Rules published by the Northwest Log Rules Advisory Group.
10. **Merchantable top:** Conifers were graded to a merchantable top specified by the official log scaling rules. For all species except pine, 2S segments were graded to a 12" top inside bark, 3S to a 6" top, and 4S to a 5" top (inside bark). Pine 4S logs were graded to a 12" top inside bark, 5S to a 6" top, and 6S to a 5" top (inside bark).
11. **Deductions for Cull, Defect and Breakage:** All visible field cull was removed in the cruise computation. Additional volume was deducted for the anticipated amount of hidden cull and breakage during logging. The estimated volume reduction used for this anticipated loss to volume was 10%.
12. **Cruisers:** Cruising was performed by Joanna Deegan with assistance by Chris Rudd.

\*ODF does not guarantee the volume of this or any other cruise. Prospective purchasers are advised to do their own cruise and sale volume calculations.

Chris Rudd, Unit Forester \_\_\_\_\_

Date\_\_\_\_\_

OREGON DEPARTMENT OF FORESTRY  
CRUISE REPORT

STRATA VOLUME SUMMARY (TOTAL NET MBF*)						
Area 1	2 Saw	3 Saw	4 Saw	5 Saw	6 Saw	TOTAL MBF
Douglas-fir	36	33	13			82
Chinquapin			55			55
Madrone			71			71
Total	36	33	139			208
Area 2	2 Saw	3 Saw	4 Saw	5 Saw	6 Saw	TOTAL MBF
Douglas-fir	64	63	24			151
Chinquapin			38			38
Madrone			231			231
Total	64	63	293			420
Area 3	2 Saw	3 Saw	4 Saw	5 Saw	6 Saw	TOTAL MBF
Douglas-fir	16	34	13			63
Total	16	34	13			63
**Not Adjusted						<b>TOTAL: 691</b>

		Conifer Volume Deductions		
		Area I	Area II	Area III
Conifer	Non-thinable	0	0	0
	Hidden Cull	0.05	0.05	0.05
	Breakage	0.05	0.05	0.05
Hardwood	Non-thinable	0.2	0.2	0.2
	Hidden Cull	0.05	0.05	0.05
	Breakage	0.08	0.08	0.08
	Recovery DF	90%	90%	90%
	Recovery HW	67%	67%	67%

FINAL Volume. -- STRATA (ADJUSTED) VOLUME SUMMARY (TOTAL NET MBF*)						
Area 1	2 Saw	3 Saw	4 Saw	5 Saw	6 Saw	TOTAL MBF
Douglas-fir	32	30	12			74
Chinquapin			37			37
Madrone			48			48
Total	32	30	40			158
Area 2	2 Saw	3 Saw	4 Saw	5 Saw	6 Saw	TOTAL MBF
Douglas-fir	58	57	22			137
Chinquapin			25			25
Madrone			155			155
Total	58	57	202			317
Area 3	2 Saw	3 Saw	4 Saw	5 Saw	6 Saw	TOTAL MBF
Douglas-fir	14	31	12			57
Total	14	31	12			57
<b>TOTAL:</b>						<b>533</b>
*Adjusted for 10% hidden cull and breakage.						

Because of the nature of the stratified sample, area (stratum) volume estimates will be less accurate than the total combined volume estimate.

OREGON DEPARTMENT OF FORESTRY  
CRUISE REPORT

Species by Grade - Board Foot Volumes (Project)																		
							Percent of Net BF Volume											
							Log Scale Dia					Log Length					Average Log	
SPP	GRADE	% NET BDFt	% Total Volume	Gross BF/Ac	Net BF/Ac	Total Net MBF	4-5	6-11	12-16	17+	12-20	21-30	31-35	Diam	BdFt	Logs per Ac		
DF	2M	39	17%	1,542	1,542	114			58	42			100	15	309	5.0		
DF	3M	44	19%	1,689	1,689	125		71	9	21			100	9	110	15.4		
DF	4M	17	7%	643	643	48	68	29	3		11	48	33	5	32	19.9		
DF Totals		22	43%	3,874	3,874	287	11	33	27	30	2	8	89	8	96	40.3		
CQ	4M	100	16%	1,399	1,399	104	21	61	18			79	12	7	61	23.1		
CQ Totals		8	16%	1,399	1,399	104	21	61				79		7	61	23.1		
MA	4M	100	42%	3,761	3,761	279	43	57			9	38	15	6	44	84.6		
MA Totals		21	42%	3,761	3,761	279	46	57			9	38	15	6	44	84.6		
Totals			100%	9,034	9,034	670												

OREGON DEPARTMENT OF FORESTRY  
CRUISE REPORT

**Project Statistics: All Statistics are reported at the 68% confidence level.**

	PLOTS	TREES	TREES PER PLOT
CRUISE	36	182	5.2
COUNT blanks	34 2	190	5.8
<b>TOTAL</b>	<b>70</b>	<b>372</b>	<b>5.3</b>

<b>PROJECT SUMMARY</b>								
<b>Species Status</b>	<b>SAMPLE TREES</b>	<b>TPA</b>	<b>AVG DBH</b>	<b>BOLE LEN</b>	<b>BA</b>	<b>GROSS BF/AC</b>	<b>NET BF/AC</b>	<b>Total MBF</b>
<i>DOUG FIR-T</i>	42	25.4	15.0	72	31.2	3,874	3,874	287
<i>Chinquap- T</i>	10	15.0	14.8	55	17.8	1,399	1,399	104
<i>Madrone- T</i>	63	72.5	12.8	45	64.3	3,761	3,761	279
<b>TOTAL</b>	<b>115</b>	<b>112.9</b>			<b>114.4</b>	<b>9,034</b>	<b>9,034</b>	<b>670</b>

<b>NET BF/ACRE CONFIDENCE INTERVAL</b>					
<b>Species- Status</b>	<b>CV%</b>	<b>S.E%</b>	<b>LOW</b>	<b>AVG</b>	<b>HIGH</b>
DOUG FIR- T	123.6	14.8	3,302	3,874	4,446
Chinquap- T	266.5	31.8	954	1,399	1,845
Madrone- T	137.9	16.5	3,141	3,761	4,380
<b>Totals</b>	<b>60%</b>	<b>7.3%</b>	7,397	9,034	10,671

<b>Board Foot Volume Summary by Strata</b>							
<b>Area</b>	<b>Acres</b>	<b>Plots</b>	<b>BF/ac</b>	<b>CV</b>	<b>SE%</b>	<b>SE (BdFt)</b>	<b>(Avg)Net</b>
1	26.75	29	7,753.71	82%	15.3%	1,184	207,412
2	27.42	22	15,331.95	37%	8.0%	1,225	420,402
3	19.91	19	3,160.20	90%	20.7%	653	62,920
<b>Combined</b>	<b>74.08</b>	<b>70</b>	<b>8,748.62</b>	<b>58%</b>	<b>6.94%</b>	<b>3,062</b>	<b>690,733</b>

\*\*Because of the nature of the stratified sample, area (stratum) volume estimates will be less accurate than the total combined volume estimate.

OREGON DEPARTMENT OF FORESTRY  
CRUISE REPORT

Log Stock Table - Percent Board Feet (Strata Combined)

SPP	GRD	LOG LEN	GROSS MBF	NET MBF	% SPC	Percent 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+
DF	2M	34	114	114	39.8						35.7	10.3	24.8	7.1	14.2	7.9	
DF	3M	34	125	125	43.6			21.3	14.3	35.1	6.1	2.7	16.4		4.1		
DF	4M	12	1	1	.4		100										
DF	4M	15	0	0	.2		100										
DF	4M	18	1	1	.5		100										
DF	4M	19	1	1	.4		100										
DF	4M	20	1	1	.4		100										
DF	4M	24	4	4	1.3			100									
DF	4M	26	17	17	6.0		53.5	32.5	5.1	8.9							
DF	4M	30	2	2	.6		100										
DF	4M	32	5	5	1.6		100										
DF	4M	33	0	0	.1		100										
DF	4M	34	11	11	3.8		67.8			20.6	11.6						
DF	4M	36	4	4	1.4		100										
DF Total			287	287													

*(see hardwood log stock table: next page)*

OREGON DEPARTMENT OF FORESTRY  
CRUISE REPORT

Log Stock Table - Percent Board Feet (Strata Combined)

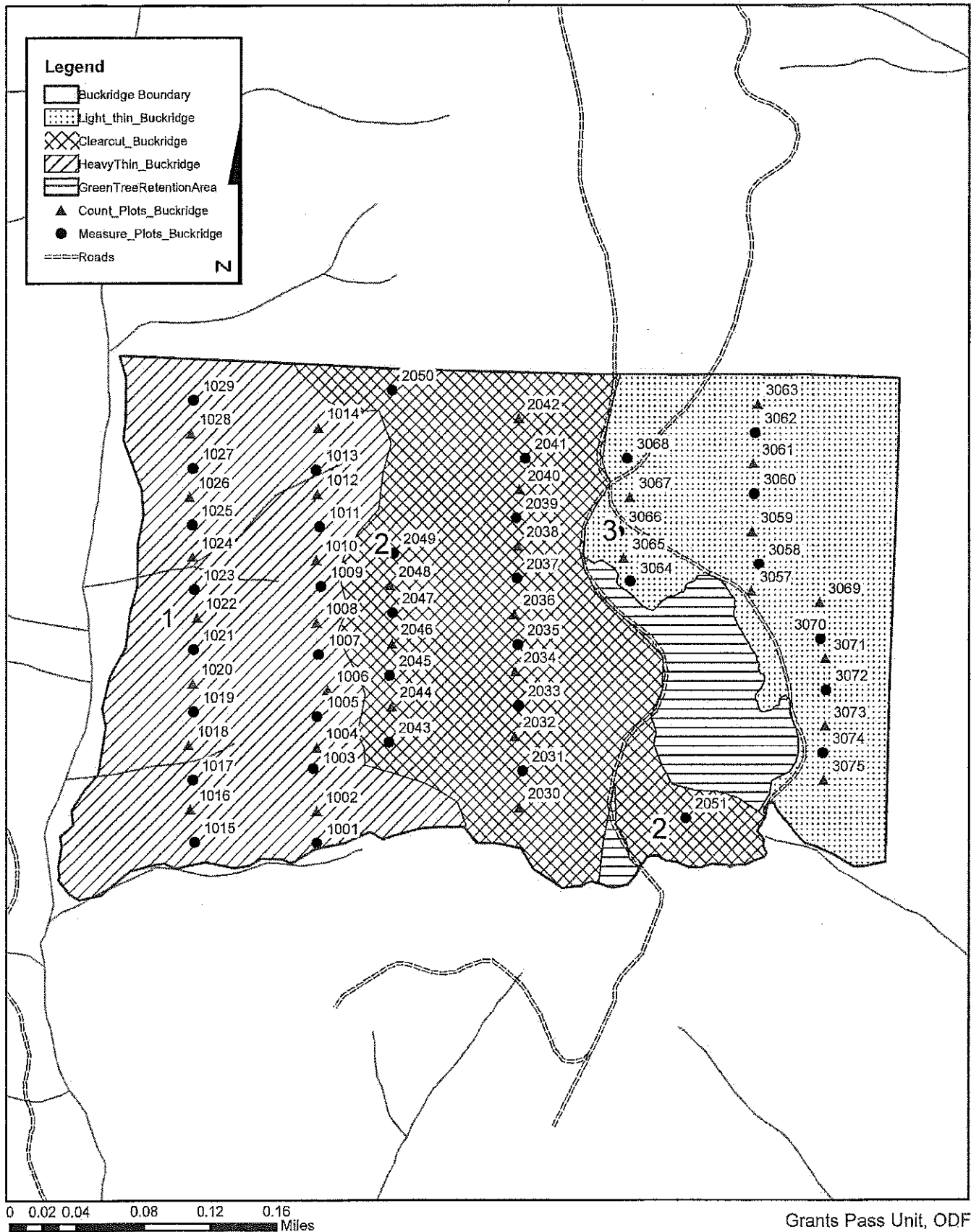
SPP	GRD	LOG LEN	GROSS MBF	NET MBF	% SPC	Percent Net Volume by Scaling Diameter in Inches											
						2- 3	4-5	6-7	8-9	10- 11	12- 13	14- 15	16- 19	20- 23	24- 29	30- 39	40+
CQ	4M	25	5	5	4.8			100									
CQ	4M	26	16	16	15.1				41.2	58.8							
CQ	4M	27	20	20	19.3		36.2	16.7		47.1							
CQ	4M	28	38	38	36.9		24.2	7.2	19.6	24.7	24.3						
CQ	4M	29	3	3	2.7		100										
CQ	4M	32	10	10	9.6						100						
CQ	4M	33	2	2	2.3		100										
CQ	4M	37	10	10	9.6			100									
CQ Total			104	104													
MA	4M	16	8	8	2.8		54.2	45.8									
MA	4M	19	5	5	1.9			100									
MA	4M	20	13	13	4.7		25.9		48.2	25.9							
MA	4M	21	4	4	1.5		40.2	59.8									
MA	4M	22	35	35	12.5		23.0	8.2	43.7	25.1							
MA	4M	23	11	11	3.8		15.6	44	40.4								
MA	4M	24	12	12	4.4		37.1	23.3		39.5							
MA	4M	25	8	8	3.0		61	39									
MA	4M	26	4	4	1.6					100							
MA	4M	27	8	8	3.0		100										
MA	4M	28	12	12	4.3		56.7			43.3							
MA	4M	30	11	11	4.0			100									
MA	4M	31	3	3	1.1			100									
MA	4M	32	9	9	3.1		33.3	66.7									
MA	4M	33	5	5	2.0			100									
MA	4M	34	11	11	3.8			46.2	53.8								
MA	4M	35	15	15	5.3		100										
MA	4M	36	27	27	9.7		72.5	27.5									
MA	4M	37	7	7	2.6		39.6	60.4									
MA	4M	38	13	13	4.5		60.8	39.1									
MA	4M	39	21	21	7.4		31.9	68.1									
MA	4M	40	4	4	1.4		100										
MA	4M	41	33	33	11.9		57.7	42.3									
MATotal			279	279													
Total			670	670													



# Buck Ridge Timber Sale

## 1.5 X 6 chain cruise grid

### Plots: 34 Count, 36 Measure



## Marking Guidelines Buck Ridge Timber Sale

**Area I (Heavy Thin):** Where conifer occurs, mark conifer to a 30 foot spacing. This particular stand is mostly hardwoods and will be similar to a hardwood conversion. Space conifer trees to keep the crowns from touching, (~30 ft.) between trees. All incense cedar, ponderosa pine, sugar pine, tan oak, and canyon live oak will be designated as reserve trees (no need to mark with red paint due to designation in the timber sale contract). Mark 10-20 TPA of large diameter (high quality) madrone/chinquapin with red paint

**Area II (Clear Cut):** Approximately 30 acres near the center of the sale will be a clear cut area with 95% of the trees being removed. There is also 2 acre patch clear-cut included in area II (south of area III). All incense cedar, ponderosa pine, sugar pine, tan oak, and canyon live oak will be designated as reserve trees. Other wildlife trees will be marked with red paint.

**Area III (Light Thin):** Where conifer occurs, mark conifer to 120-130 sq. ft./ac.. Space conifer trees to keep the crowns from touching (~20 foot spacing). All incense cedar, ponderosa pine, sugar pine, tan oak, and canyon live oak will be designated as reserve trees (no need to mark with red paint due to designation in the timber sale contract). Mark 10-20 TPA of large diameter (high quality) madrone/chinquapin with red paint

The maximum diameter limit is approximately 32". Do not mark Old Growth trees. Mark the co-dominant trees in the stand with blue paint. It is intended to be a thinning from below, leaving the largest and best trees in the stand. The best trees would be described as those with the largest crowns and free of disease.

Do not mark hardwoods to be cut (blue paint) in area I and III. Do not mark hardwoods to leave (red paint) in area II.

Mark the trees that have smaller crowns, co-dominants, and diseased trees, but it is OK to leave some diseased trees. It is acceptable to take dominant trees if they are diseased, have poor crowns, to improve spacing, and if there is a young vigorous tree to replace it.

Mark carefully for logging and ease of cutting. Mark trees that fall away from other trees and crowns if possible. Be cognizant of falling patterns to avoid excess damage.

Do not mark trees within 25' of a defined stream channel (there are not too many of these since they were purposefully left out of the timber sale).

If you mark sub-merchantable trees, or trees less than 10", they should be trees that are not future growing stock. (whips with small crowns and poor height to diameter ratios) Retain high quality future growing stock.

### **In short:**

Area I = 30 foot spacing

Area II= Clearcut- mark wildlife trees

Area III: 20 foot spacing

Release Crowns

Spacing (stems) 30 feet

Max Diameter 32" Do not mark OG trees

Mark Codominants

Retain largest and best trees

Mark DF, GF (No Hardwoods)

Mark Dominants only when: diseased, poor crowns,  
for spacing, and when a replacement is available.

Mark for falling patterns and logging ease

Stay 25' back from streams

Mark whips, retain good future growing stock

# Buckridge Cruise Design

October 8, 2014

## Type 5179 and 5289:

1. Objective: Measure trees in 36 plots and count trees in 34 plots to obtain grade and volume.
2. Variable plot cruise
3. All plots use a 33.61 BAF
4. Every other plot is a measure plot. Count-Measure for a total of 70 plots.
5. Measure plots- 33.61 BAF, Measure all take and leave trees.
  - a. Measure all trees with a DBH of 10" or more.
  - b. Measure DBH, height, Form Factor, and grade of all trees.
  - c. Record species and take (T) or leave (L) status.
  - d. Measure hardwoods the same as conifer.

**Stats-** Estimate of CV=75%, SE% of 10.

**Cruise lines-** 6 lines, 6 chains apart

**Plots-** Measure, Count, Measure, Count- 1.5 chains apart. Total 70 plots: 36 Measure; 34 Count

**Strata-** 3 types: Area I (Heavy Thin), Area II (Clear-Cut), Area III (Light Thin).

## General Instructions

Measure Standards:

1. View all conifers at DBH.
2. Form point is at 4.5 feet.
3. Record height to the nearest foot.
4. Diameter taken outside bark at 4.5 feet above stump height.
5. Measure total height of all trees or to 6 or 8 inches outside bark.
6. Cruise to 17, 26, 34, and 40 foot logs. Preferred lengths: When cruising think about the final product. Douglas-fir, White fir, and veneer pine should be graded to the preferred length, 34+10, 17+1-, and 26+10. At Swanson, the largest peeler log is 20" and at Murphy, the cutoff is 25". Boise has a 4 foot lathe, but will accept two foot multiples at the mill, where the extra two feet is chipped. Cruise to a 34+12 or 40+12 for oversize logs. In all cases, two and four foot multiples are acceptable. Cedar is cut to 32+10 or 16+10. Oversize pine is cut to 32+12 or 16+10.

Special Considerations:

1. Plot centers will be marked with ribbon.

