



Timber Sale Appraisal  
My Mulligan  
Sale FG-341-2017-30-

District: Forest Grove

Date: April 07, 2017

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**Cost Summary**

	Conifer	Hardwood	Total
Gross Timber Sale Value	\$1,660,969.55	\$0.00	\$1,660,969.55
		Project Work:	\$0.00
		Advertised Value:	\$1,660,969.55



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**Timber Description**

**Location:** Portions of Sections 20 and 21, T3N, R5W, W.M., Washington County, Oregon.

**Stand Stocking:** 20%

Specie Name	AvgDBH	Amortization (%)	Recovery (%)
Douglas - Fir	29	0	98

Volume by Grade	2S	3S	4S	Total
Douglas - Fir	2,882	422	39	3,343
<b>Total</b>	2,882	422	39	3,343

**Comments:** Pond Values Used: 1st Quarter Calendar Year 2017.

Western Hemlock and Other Conifers Stumpage Price = Pond Value minus Logging Cost:  
 $\$316.97/\text{MBF} = \$495/\text{MBF} - \$178.03/\text{MBF}$

Western redcedar and Other Cedars Stumpage Price = Pond Value minus Logging Cost:  
 $\$996.97/\text{MBF} = \$1,175/\text{MBF} - \$178.03/\text{MBF}$

Red Alder and Other Hardwoods Stumpage Price = Pond Value minus Logging Cost:  
 $\$466.97/\text{MBF} = \$645/\text{MBF} - \$178.03/\text{MBF}$

SCALING COST ALLOWANCE = \$5.00/MBF

BRANDING AND PAINTING COST ALLOWANCE = \$2.00/MBF

FUEL COST ALLOWANCE = \$3.00/MBF

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):  
Mechanical Site-Prep: 30 acres @ \$150/acre = \$4,500  
Block/Waterbar Roads/Skid Trails: 15 hrs x \$150/hour = \$2,250  
Pile Landing Slash/Firewood Sort: 20 hrs @ \$150/hour = \$3,000  
Equipment Cleaning: 3 pieces @ \$1,000/piece = \$3,000  
TOTAL Other Costs (No Profit & Risk added) = \$12,750

Road Maintenance  
Move in: \$2,000  
Road Maintenance: 4.1 miles @ \$1,200/mile = \$4,920  
TOTAL Road Maintenance: \$6,920/3,343 MBF = \$2.07/MBF



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**Logging Conditions**

<b>Combination#:</b> 1	Douglas - Fir	86.00%
<b>Logging System:</b>	Shovel	<b>Process:</b> Stroke Delimber
<b>yarding distance:</b>	Short (400 ft)	<b>downhill yarding:</b> No
<b>tree size:</b>	Mature / Regen Cut (900 Bft/tree), 3-5 logs/MBF	
<b>loads / day:</b>	10	<b>bd. ft / load:</b> 4500
<b>cost / mbf:</b>	\$70.49	
<b>machines:</b>	Stroke Delimber (B)	

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<b>Combination#:</b> 2	Douglas - Fir	14.00%
<b>Logging System:</b>	Cable: Small Tower <=40	<b>Process:</b> Stroke Delimber
<b>yarding distance:</b>	Short (400 ft)	<b>downhill yarding:</b> No
<b>tree size:</b>	Mature / Regen Cut (900 Bft/tree), 3-5 logs/MBF	
<b>loads / day:</b>	6	<b>bd. ft / load:</b> 4500
<b>cost / mbf:</b>	\$207.41	
<b>machines:</b>	Log Loader (A) Stroke Delimber (A) Tower Yarder (Small)	

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### Logging Costs

Operating Seasons: 1.00	Profit Risk: 10%
Project Costs: \$0.00	Other Costs (P/R): \$0.00
Slash Disposal: \$0.00	Other Costs: \$12,750.00

Miles of Road

Road Maintenance: \$2.07

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	3.0	4.5



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### Logging Costs Breakdown

Logging	Road Maint	Fire Protect	Hauling	Other P/R appl	Profit & Risk	Slash Disposal	Scaling / Brand & Paint	Other	Total
Douglas - Fir									
\$89.66	\$2.11	\$1.31	\$58.94	\$0.00	\$15.20	\$0.00	\$7.00	\$3.81	\$178.03

Specie	Amortization	Pond Value	Stumpage	Amortized
Douglas - Fir	\$0.00	\$674.88	\$496.85	\$0.00



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**Summary**

**Amortized**

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

**Unamortized**

Specie	MBF	Value	Total
Douglas - Fir	3,343	\$496.85	\$1,660,969.55

**Gross Timber Sale Value**

**Recovery:** \$1,660,969.55

**Prepared By:** Mark Savage

**Phone:** 503-359-7437

**TIMBER SALE SUMMARY**  
**My Mulligan**  
**Contract No. 341-17-30**

1. **Location:** Portions of Sections 20 and 21, T3N, R5W, W.M., Washington County, Oregon.
2. **Type of Sale:** This timber sale is 119 net acres of Modified Clearcut. The timber will be sold on a recovery basis at a sealed bid auction.
3. **Revenue Distribution:** 100% BOF, Washington County.
4. **Sale Acreage:** Acres are net of stream buffers and road prisms. Acreage was determined using ESRI ArcMap GIS software.
5. **Cruise:** The Timber Sale was cruised by ODF Cruisers in February of 2017. For more information see Cruise Report.
6. **Timber Description:** The Timber Sale Area consists of a 70 year old Douglas-fir stand with minor amounts of western hemlock, western redcedar, true firs, and hardwoods. The stand has an average of 126 ft<sup>2</sup> of basal area (all species), an average Douglas-fir DBH of 28.6 inches, and an estimated average net Douglas-fir volume of approximately 28.7 MBF per acre.
7. **Volume Summary:**

SPECIES		2 SAW	3 SAW	4 SAW	TOTAL
Douglas-fir	Cruise Volume	2,941	431	40	3,412
	Hidden D&B (2%)	(59)	(9)	(1)	(69)
	<b>NET TOTAL</b>	2,882	422	39	3,343
	% of Total	86	13	1	

8. **Topography and Logging Method:** Slopes within the sale areas range from 5% to 60%, but are generally less than 35%, and variable in aspect. The timber sale is 86% ground-based yarding and 14% cable yarding. The average cable corridor length is 400 feet and the maximum is approximately 800 feet. The average horizontal skid trail length is approximately 300 feet and the maximum is approximately 900 feet.



9. **Access:** All access to the Timber Sale Area is on surfaced all-weather roads. From Forest Grove, travel north on Highway 47 through Banks then merge onto Highway 26 westbound and continue for approximately 11.5 miles to Timber Road. Turn left and proceed south on Timber Road .7 miles to the Lousignont Road. Turn right and continue approximately .6 mile to the South Lousignont Road. Turn left and continue on South Lousignont Road for approximately .8 miles to the northeast portion of the timber sale.

10. **Projects:** None.

# CRUISE REPORT

My Mulligan

341-17-30

**1. LOCATION:** Portions of Sections 20 and 21, T3N, R5W, W.M., Washington County, Oregon.

## **2. CRUISE DESIGN:**

Pre-cruise evaluation indicated that the stand's average DBH is approximately 24 inches and its Coefficient of Variation is about 50%. For sales of this size and approximate value, ODF cruise standards require a Sampling Error of 9% at a 68% confidence level, and a minimum sample size of 100 graded trees. The cruise design chosen for this sale is a variable radius sample plot using 20, 25.15, 33.61, and 40 BAF prisms. Multiple BAF prisms were used to ensure that the cruisers obtained the required number of graded trees in this cruise. A 20 BAF was appropriate in previously heavily thinned areas, while a 40 BAF was more appropriate in areas previously lightly thinned or not at all.

## **3. SAMPLING METHOD:**

The Timber Sale Area was cruised in 02/2017. The Timber Sale Area was sampled with 32 variable radius grade plots using 20, 25.15, 33.61, and 40 BAF prisms. Plots were laid out on a 5 chain x 6 chain grid. Plots falling on or near existing roads or no-harvest areas were offset 1 chain.

## **4. CRUISE RESULTS**

118 trees were measured and graded producing a cumulative Sampling Error of 6.7% on the Basal Area and 7% on the Board Foot Volume.

## **5. TREE MEASUREMENT AND GRADING:**

All sample trees were measured and graded following Columbia River Log Scale grade rules and favored 40 foot segments.

### **a) Height Standards:**

Total tree heights were measured to the nearest foot. Bole heights were calculated to a six inch top.

### **b) Diameter Standards:**

Diameters were measured outside bark at breast height to the nearest inch.

### **c) Form Factors**

were measured for each grade tree using a form point of 16 feet.

## **5. DATA PROCESSING**

### **a) Volumes and Statistics,**

Cruise estimates and sampling statistics, were derived from Super Ace 2008 cruise software

### **b) Deductions:**

Two percent of the volume was subtracted from the computed volumes to account for hidden defect and breakage.

**6. Cruisers:** The sale was cruised by ODF cruisers Mark Savage and Kenton Burns.

Prepared by:

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Mark Savage

\_\_\_\_\_  
Date

Reviewed by:

\_\_\_\_\_  
Eric Foucht

\_\_\_\_\_  
Date

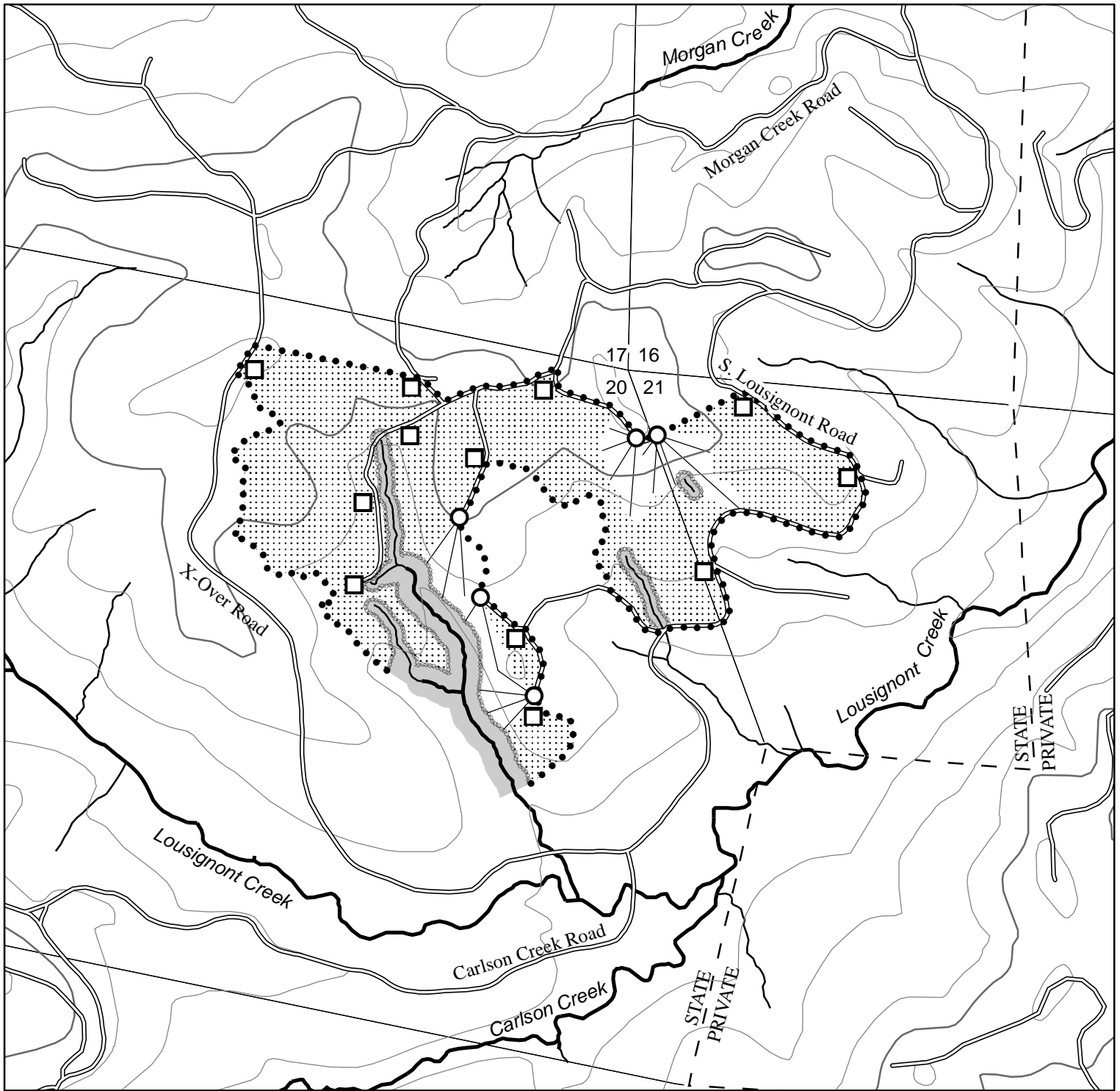
TC PSTATS					PROJECT STATISTICS				PAGE	1
					PROJECT	MYMULFIN	DATE 2/28/2017			
TWP	RGE	SC	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
T3N	R5	20	00A1	00MC	119.00	32	118	S	W	
					TREES	ESTIMATED	PERCENT			
					PER PLOT	TOTAL	SAMPLE			
						TREES	TREES			
TOTAL			32	118	3.7					
CRUISE			32	118	3.7	3,379	3.5			
DBH COUNT										
REFOREST										
COUNT										
BLANKS										
100 %										
STAND SUMMARY										
SAMPLE			TREES	AVG	BOLE	REL	BASAL	GROSS	NET	GROSS
TREES			/ACRE	DBH	LEN	DEN	AREA	BF/AC	BF/AC	CF/AC
DOUG FIR			112	26.8	28.6	149	22.3	119.4	29,149	28,666
GR FIR			6	1.5	27.3	144	1.2	6.3	1,655	1,638
TOTAL			118	28.4	28.5	149	23.6	125.7	30,805	30,303
CONFIDENCE LIMITS OF THE SAMPLE										
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR										
CL	68.1	COEFF	SAMPLE TREES - BF				# OF TREES REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5 10		15	
DOUG FIR			43.9	4.1	1,171	1,221	1,272			
GR FIR			75.7	33.7	947	1,428	1,910			
TOTAL			46.2	4.3	1,180	1,232	1,284	85	21	9
CL	68.1	COEFF	SAMPLE TREES - CF				# OF TREES REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5 10		15	
DOUG FIR			37.7	3.6	241	250	259			
GR FIR			66.9	29.8	194	277	360			
TOTAL			39.6	3.6	242	252	261	63	16	7
CL	68.1	COEFF	TREES/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5 10		15	
DOUG FIR			57.3	10.1	24	27	30			
GR FIR			255.8	45.2	1	2	2			
TOTAL			54.0	9.5	26	28	31	116	29	13
CL	68.1	COEFF	BASAL AREA/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5 10		15	
DOUG FIR			38.1	6.7	111	119	127			
GR FIR			255.8	45.2	3	6	9			
TOTAL			35.4	6.3	118	126	134	50	13	6
CL	68.1	COEFF	NET BF/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5 10		15	
DOUG FIR			39.8	7.0	26,649	28,666	30,683			
GR FIR			255.1	45.1	900	1,638	2,375			
TOTAL			37.5	6.6	28,298	30,303	32,309	56	14	6
CL	68.1	COEFF	NET CUFT FT/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5 10		15	
DOUG FIR			40.0	7.1	5,547	5,968	6,390			
GR FIR			252.5	44.6	185	333	482			
TOTAL			37.2	6.6	5,888	6,301	6,715	55	14	6

TC		PSPCSTGR		Species, Sort Grade - Board Foot Volumes (Project)																		
<div>TT3N RR5W S20 Ty00MC119.00</div>				Project:		MYMULFIN											Page		1			
				Acres		119.00											Date		2/28/2017			
																	Time		12:56:54PM			
Spp	S T	So rt	Gr ad	% Net BdFt	Bd. Ft. per Acre			Total Net MBF	Percent of Net Board Foot Volume								Average Log				Logs Per /Acre	
									Log Scale Dia.				Log Length				Ln Ft	Dia In	Bd Ft	CF/ Lf		
					Def%	Gross	Net		4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99						
DF		CU															8	22		0.00	1.2	
DF		2M		86	1.7	25,151	24,714	2,941			28	72	1	3	2	94	39	17	496	2.53	49.8	
DF		3M		12	1.3	3,666	3,619	431			72	3	25	2	5	5	89	38	9	138	0.98	
DF		4M		2		333	333	40			100			43	57		20	7	29	0.46	11.6	
DF Totals				95	1.7	29,149	28,666	3,411			10	24	66	2	4	2	92	36	14	323	1.89	88.9
GF		CU															5	27		0.00	.1	
GF		2M		73	1.5	1,214	1,196	142			43	57				100	40	17	492	2.41	2.4	
GF		3M		25		415	415	49			41	59			18	3	78	38	12	274	1.56	
GF		4M		2		26	26	3			100			100			17	6	22	0.40	1.2	
GF Totals				5	1.1	1,655	1,638	195			12	31	57	2	5	1	93	34	13	313	1.89	5.2
Totals					1.6	30,805	30,303	3,606			10	24	65	2	4	2	92	36	14	322	1.89	94.1

TC PLOGSTVB		Log Stock Table - MBF																	
TT3N RR5W S20 Ty00MC 119.00				Project: MYMULFIN Acres 119.00										Page 1 Date 2/28/2017 Time 12:56:53PM					
Spp	S T	So Gr rt de	Log Len	Gross MBF	Def %	Net MBF	% Sp	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	12	8		8	.2							8					
DF		2M	18	6		6	.2									6			
DF		2M	20	29	8.2	27	.8							27					
DF		2M	22	15	9.5	13	.4									13			
DF		2M	24	12	4.3	12	.3									12			
DF		2M	27	9	9.7	8	.2							8					
DF		2M	28	14		14	.4									14			
DF		2M	30	56		55	1.6							13		20	22		
DF		2M	32	35	4.7	33	1.0									12	21		
DF		2M	34	14		14	.4							14					
DF		2M	36	23	3.5	22	.6									22			
DF		2M	40	2,772	1.6	2,728	80.0						228	254	1060	728	458		
DF		3M	14	8		8	.2									8			
DF		3M	24	16	6.5	15	.5					2				14			
DF		3M	28	3		3	.1			3									
DF		3M	30	2		2	.1			1	1								
DF		3M	32	9		9	.3			6	4								
DF		3M	34	10		10	.3			10									
DF		3M	36	11		11	.3			7	4								
DF		3M	38	17		17	.5			9	2	7							
DF		3M	40	359	1.3	354	10.4			21	87	147	3	9	19	11	55		
DF		4M	12	4		4	.1			2	2	1							
DF		4M	14	6		6	.2			3	3								
DF		4M	16	2		2	.0			1	1								
DF		4M	18	2		2	.1				2								
DF		4M	20	2		2	.1			0	2								
DF		4M	22	7		7	.2			6	1								
DF		4M	24	2		2	.0			2									
DF		4M	26	6		6	.2			6									
DF		4M	28	5		5	.2			5									
DF		4M	30	2		2	.1			2									
DF		Totals		3,469	1.7	3,411	94.6			86	109	156	231	278	1134	861	557		
GF		2M	40	144	1.5	142	73.0					5		28	62	22	25		
GF		3M	22	9		9	4.6									9			
GF		3M	32	2		2	.8					2							
GF		3M	40	39		39	19.9			9	10							20	

TC PLOGSTVB		Log Stock Table - MBF																		
TT3N RR5W S20 Ty00MC 119.00		Project: MYMULFIN Acres 119.00										Page 2 Date 2/28/2017 Time 12:56:53PM								
		S T	So rt	Gr de	Log Len	Gross MBF	Def %	Net MBF	% Sp	Net Volume by Scaling Diameter in Inches										
Spp									2-3	4-5	6-7	8-9	10-11	12-13	14-15	16-19	20-23	24-29	30-39	40+
GF			4M	14		1		1	.5			1								
GF			4M	18		2		2	.9			1	1							
GF			4M	20		0		0	.2			0								
GF			Totals			197	1.1	195	5.4			2	9	12	5	28	62	22	34	20
Total			All Species			3,666	1.6	3,606	100.0			88	118	168	236	306	1196	883	590	20

TC		PSTNDSUM										Stand Table Summary										Page		1					
																						Date:		2/28/2017					
TT3N RR5W S20 Ty00MC					119.00					Project					MYMULFIN					Time:					12:56:55PM				
										Acres					119.00					Grown Year:									
S SpC	T	Sample		FF 16'	Av Ht	Trees/ Acre	BA/ Acre	Logs Acre	Average Log		Tons/ Acre	Cu.Ft. Acre	Bd.Ft. Acre	Totals															
		DBH	Trees						Net Cu.Ft.	Net Bd.Ft.				Tons	Cunits	MBF													
DF	17	2	82	100	.895	1.41	1.79	27.8	93.9	1.42	50	168	169	59	20														
DF	20	1	88	143	.481	1.05	1.44	34.7	160.0	1.43	50	231	170	60	27														
DF	21	2	86	137	.697	1.68	2.09	37.7	171.3	2.24	79	358	267	94	43														
DF	22	5	87	146	1.743	4.60	5.63	40.1	183.8	6.43	225	1,034	765	268	123														
DF	23	2	86	143	.728	2.10	2.18	47.1	205.0	2.93	103	448	349	122	53														
DF	24	7	85	146	2.268	7.13	7.20	47.5	213.2	9.75	342	1,536	1,161	407	183														
DF	25	7	84	145	2.142	7.30	6.79	51.0	228.2	9.87	346	1,550	1,175	412	184														
DF	26	9	84	152	2.726	10.05	8.75	57.9	257.5	14.45	507	2,253	1,719	603	268														
DF	27	7	87	140	1.826	7.26	5.90	59.0	278.3	9.92	348	1,642	1,180	414	195														
DF	28	4	85	146	1.076	4.60	4.01	54.0	260.8	6.18	217	1,046	735	258	124														
DF	29	8	84	150	1.870	8.58	5.97	70.2	323.9	11.95	419	1,935	1,422	499	230														
DF	30	6	84	160	1.111	5.45	3.67	76.7	366.2	8.03	282	1,345	956	335	160														
DF	31	10	85	158	2.271	11.90	7.49	81.5	397.2	17.40	611	2,975	2,071	727	354														
DF	32	9	84	158	1.871	10.45	7.04	78.2	395.3	15.68	550	2,782	1,865	655	331														
DF	33	3	84	149	.553	3.29	1.66	98.6	457.9	4.67	164	760	555	195	90														
DF	34	8	86	159	1.417	8.94	5.18	92.9	478.4	13.71	481	2,478	1,631	572	295														
DF	35	4	85	155	.555	3.71	1.78	97.0	502.6	4.93	173	897	587	206	107														
DF	36	8	84	157	1.227	8.67	4.15	110.9	554.4	13.10	460	2,298	1,559	547	274														
DF	37	2	87	160	.335	2.50	1.34	103.3	557.5	3.94	138	747	469	165	89														
DF	38	3	82	147	.425	3.35	1.28	129.4	632.2	4.71	165	807	560	197	96														
DF	39	2	85	155	.301	2.50	1.21	108.5	592.5	3.73	131	714	444	156	85														
DF	40	2	80	152	.215	1.88	.64	109.9	590.0	2.02	71	380	240	84	45														
DF	41	1	82	165	.115	1.05	.46	124.1	617.5	1.62	57	283	193	68	34														
DF	Totals	112	85	149	26.849	119.44	87.66	68.1	327.0	170.09	5,968	28,666	20,241	7,102	3,411														
GF	22	1	86	125	.398	1.05	1.19	39.8	176.7	1.05	48	211	124	57	25														
GF	24	1	82	118	.398	1.25	1.19	45.8	180.0	1.20	55	215	143	65	26														
GF	26	1	92	171	.170	.63	.68	57.4	317.5	.86	39	215	102	46	26														
GF	27	1	85	159	.264	1.05	.79	71.4	350.0	1.25	57	277	148	67	33														
GF	32	1	87	171	.224	1.25	.90	85.5	440.0	1.68	77	394	200	91	47														
GF	45	1	81	175	.095	1.05	.38	154.8	855.0	1.30	59	325	154	70	39														
GF	Totals	6	85	144	1.548	6.28	5.13	64.9	319.0	7.33	333	1,638	872	396	195														
Totals		118	85	149	28.397	125.72	92.79	67.9	326.6	177.42	6,301	30,303	21,113	7,499	3,606														



## LEGEND

- • • Timber Sale Boundary
- Type F Stream
- Type N Stream
- - - - - Posted Stream Buffer Boundary
- Stream Buffer
- Cable Landing
- Tractor Landing
- Surfaced Road
- ∠ Cable Yarding Area
- • • • • Tractor Yarding Area
- 200 Foot Contour Band
- 40 Foot Contour Band
- - - - - ODF Ownership Boundary
- Sections

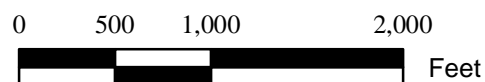
## LOGGING PLAN

FOR TIMBER SALE CONTRACT # 341-17-30  
MY MULLIGAN  
PORTIONS OF SECTIONS 20 & 21, T3N, R5W  
WASHINGTON COUNTY, OREGON.

Forest Grove District GIS  
March, 2017

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

1:12,000  
1 inch = 1,000 feet



APPROXIMATE NET ACRES  
TRACTOR CABLE

17 102