

**Cougar Looper Sorts  
FY 2017  
TIMBER CRUISE REPORT – Area 1**

1. **Sale Area Location:** Area 1 is located in portions of Sections 10, 11, and 15 T4N, R8W, W.M., Clatsop County, Oregon.
2. **Fund Distribution:** Fund: BOF 100% CSL 0%  
Tax Code: 8-01 100%
3. **Sale Acreage by Area:**

Area	Harvest Type	Gross Acres	Stream Buffer Acres	New R/W Acres	Existing R/W Acres	Net Acreage
1	MCC	58	2	0	0	56
<b>TOTALS</b>		<b>58</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>56</b>

4. **Cruisers and Cruise Dates:** Area 1 was cruised by Andrew Arvin, Jake Hatcher with John Choate, Bryce Rodgers with Matt Dimick, and Ed Holloran. The cruise was performed in October, 2016.
5. **Cruise Method and Computation:** Area 1 is a modified clear cut unit. A variable plot cruise with a 40 BAF for conifer and a 33.61 BAF was used for hardwoods in all of these Areas.

Area 1 is a modified clear cut unit. 53 plots were sampled on a grid of 2.5 chains by 4 chains, with a count/cruise plot ratio of 1 to 1. There were 27 measured plots and 26 count plots sampled.

R/W: The right-of-way volume is included in each area. There is no out-of-area volume.

Cruisers used Allegro data collectors, and were downloaded to the Atterbury Super A.C.E. program at the Astoria District for computing. See the attached Cruise Design for more details on the cruise method. The cruise calculations were processed in the Astoria District office.

<u>AREAS</u>	<u>PROJECT</u>	<u>TRACT</u>	<u>CRUISE TYPE</u>
1	COUGARLOOP	A1	CC1
1	COUGARLOOP	A1	TAKE

6. **Timber Description:** Area 1 is approximately 71 to 79 years stand of Douglas-fir, with hemlock, alder, and some spruce and noble fir. The average take Douglas-fir tree size for harvest is approximately 27 inches DBH, with an average merchantable tree height of 88 feet. The average take hemlock tree size is approximately 20 inches DBH, with an average merchantable tree height of 60 feet. The average take alder tree size is approximately 15 inches DBH with an average merchantable tree height of 44 feet. The average volume per acre to be harvested (net) is approximately 45 MBF. All trees were cruised to a merchantable top of 6 inch DIB or 40% fp.

Cedar was a reserved species in Area 1.

7. **Statistical Analysis: (See also "Statistics Reports," attached.)**

Area	Target CV	Target SE%	Actual CV	Actual SE%
1	55	9	50.3	6.9

The statistics is for this area and Take and Leave trees combined based on Net BF/Acre.

8. **Take Volumes by Species and Log Grades for All Sale Areas by MBF:** (See "Species, Sort Grade-Board Feet Volumes (Project)", "Statistics (Project)", and the "Stand Table Summary" attached). Volumes do not include "in-growth." The majority of defect and breakage was taken out during the cruise.

Species	DBH	Net Vol.	Special Mill	2 Saw	3Saw	4 Saw	% D & B	% Sale
Douglas-fir	27	1,265	15	1,060	176	14	3	50
W. Hemlock & True Fir	21	697		552	120	25	3	27
Sitka Spruce	26	265		118	126	21	2	10
<b>TOTAL NET CON. VOLUME</b>		2,227						88

Species	DBH	Net Vol.	12" +	10" - 11"	8" - 9"	6" - 7"	% D & B	% Sale
Alder & Other hardwoods	15	311	90	94	29	98	8	12

**TOTAL NET VOLUME FOR SALE = 2,538 MBF**

**Sort Breakdown:**

Sort #	Species	Sort Specifications	Estimated Net MBF	Sale %
1	WH/fir	6" to 11" Sawlogs	133	5
2	WH/fir	12" to 20" Sawlogs	363	14
3	WH/fir	21" + Sawlogs	168	7
4	WH/fir	High Quality (12" +) Sawlogs	28	1
5	DF	6" to 11" Sawlogs	129	5
6	DF	12" to 20" Sawlogs	454	18
7	DF	21" + Sawlogs	593	23
8	DF	High Quality (12" +) Sawlogs	91	4
9	SS	6" to 20" Sawlogs	129	5
10	SS	21" + Sawlogs	137	5
11	RA	6" to 9" Camprun Sawlogs	119	5
12	RA	10" + Camprun Sawlogs	192	8
13	Pulp	Pulp 2"+	Tons	

High Quality Volume was estimated at 8% of volume over 12 inches for Douglas-fir and 5% for Western Hemlock.

9. Prepared by: Edward M. Holloran

Date: 12/1/2016

10. Approved by: 

Date: 12/20/2016

11. Attachments: Cruise Plans & Maps – (3 pages)  
Species, Sort, Grade Reports – Take (1 pages)  
Statistics Reports – (3 pages)  
Stand Table Report – (2 pages)  
Log Stock Table Report – Take (3 pages)

**CRUISE DESIGN  
ASTORIA DISTRICT**

**Sale Name:** Cougar Looper **Area(s)** 1

**Harvest Type:** Modified Clear Cut

**Approx. Cruise Acres:** 54 **Estimated CV%** 55 **Net BF** **SE% Objective** 9 **Net BF**

**Planned (Unit) Sale Volume:** 2,430 MBF **Estimated Sale Area Value/Acre:** \$20,250

**A. Cruise Goals:** (a) Grade minimum 170 conifer and 20 hardwood trees:  
(b) Sample 54 cruise plots; (c) Other goals ( Determine "automark" thinning standards;  Determine log grades for sale value;  Determine snag and leave tree species and sizes;  Determine LWD (down wood) cubic feet and decay classes;  Determine "diameter limit" harvest parameters;

**B. Cruise Design:**

**1. Plot Cruises:** BAF 40 for Conifer and 33.61 for Hardwoods Full point  
Fixed Plot Size \_\_\_\_\_ Plot Radius \_\_\_\_\_ feet  
Cruise Line Direction(s) 90°/270°  
Cruise Line Spacing 4 chains  
Cruise Plot Spacing 2.5 chains  
Grade/Count Ratio 1 : 1 (27 measure – 27 count)  
Leave X leave trees per cruise plot.

If plot falls clearly inside a buffer or No Harvest Area drop the plot. Take plots as marked on map. All Cedar is reserved Timber.

**C. Tree Measurements:**

- 1. Diameter:** Minimum DBH to cruise is 8" for conifers and 8" for hardwoods. Record DBH to nearest ½" for trees < 16", to nearest 1" for trees 16-24", and to nearest 2" for trees > 24". If tree diameters are estimated (only estimate on variable plot cruises), then record to closest estimate.
- 2. Bole Length:** Record bole length to nearest foot at TCD. For trees greater than 100 feet in merchantable height, estimating to the nearest 5 feet is acceptable.
- 3. Top Cruise Diameter (TCD):** Minimum top outside bark is 7" or 40% of DOB at 16' form point. Generally, use 7" outside bark for trees < 18" DBH and 40% of DOB @ FP for trees > 18" DBH.
- 4. Form Factors:** (1) Measure or estimate a 16' form factor for every conifer tree measured/graded; OR (2) Measure a minimum of 20 form factors for each major conifer species on the cruise area, and use these to calculate average FF for the species on the cruise. Hardwood form factors are a Standard 87.
- 5. Tree Segments:** Record log segments in "standard" log lengths in general use, such as 16', 32' and 40' lengths, whenever possible. Do not record odd segments just to

maximize grade. Cull segments can be any length. For conifers, minimum merchantable segment length is 12'; for hardwoods, it's 8'. Maximum segment length is 40'. One foot of trim is assumed for each merch. segment. Do not use "double dash" (--) feature on the data recorder except for the top segment of the tree.

**6. Species, Sort, and Grade Codes:**

A. Species: Record as D (Douglas-fir); H (Western hemlock); S (Sitka Spruce); C (Western red cedar); NF (Noble fir); SF (Silver fir); A (Red alder); M (Bigleaf maple).

For "leave trees" in partial cuts, or for marked "wildlife trees," add an "L" to the species code (such as DL, HL, CL, etc.)

B. Sort: Use code "1" (Domestic).

C. Grade: A = 1 Peeler; B = 2 Peeler; C = 3 Peeler; D = Special Mill; 2 = 2 Sawmill; 3 = 3 Sawmill; 4 = 4 Sawmill; R = Camp Run; 0 = Cull

D. Alder Grades: 12" + = 1 Sawmill; 10"-12" = 2 Sawmill; 10"-8" = 3 Sawmill; and 8"-6" 4 Sawmill, or R = Camp Run; 0 = Cull.

**7. Deductions:** Estimate visible defect or damage as a "length deduction" (most often), or as a "diameter deduction," as applicable. Estimate hidden defect and breakage (usually some breakage is encountered in trees > 100 feet in height) on a "per tree" basis. Steep and broken topography generally results in higher breakage percentages than gentler topography, and hemlock generally breaks more than D-fir and spruce.

**8. Standard Field Procedures:** Plot Type Cruises: Mark cruise line beginning and end points with blue/yellow flagging. Write plot identification numbers and line direction on the ribbon. At each plot, tie yellow flagging above eye level near plot center and another yellow flagging around a sturdy wooden stake marking plot center. On each yellow flagging, write the plot identification number. Between plots, along the cruise line, tie blue flagging at Intervisible points, not to exceed 100' apart. On "measure/grade" plots write the tree number and/or tree diameter on at least the first measured tree (clockwise from the line direction) in yellow paint. All trees on the plot may be marked this way, if the cruiser chooses.

ITS and 100% Cruises: Mark cruise "strips" with various colored flagging (not pink). Mark trees measured and graded with yellow paint.

**9. Cruising Equipment:** Relaskop, Rangefinder, Logger's Tape (with dbh on back), Biltmore Stick, Compass, Cruise Cards in Tatum OR Data Recorder, Cruise Design Cruise Map, Yellow Flagging, Blue Flagging

**10. Attachments:** A. Cruise Map (showing cruise unit boundaries, roads, streams, approx. acres/unit, cruise lines and plot locations, legal description and section lines, BAF or plot size, measure/count plot ratio, north arrow, and scale.

B. Data Recorder Instructions

C. Other

Cruise Design by: Ed Holloran

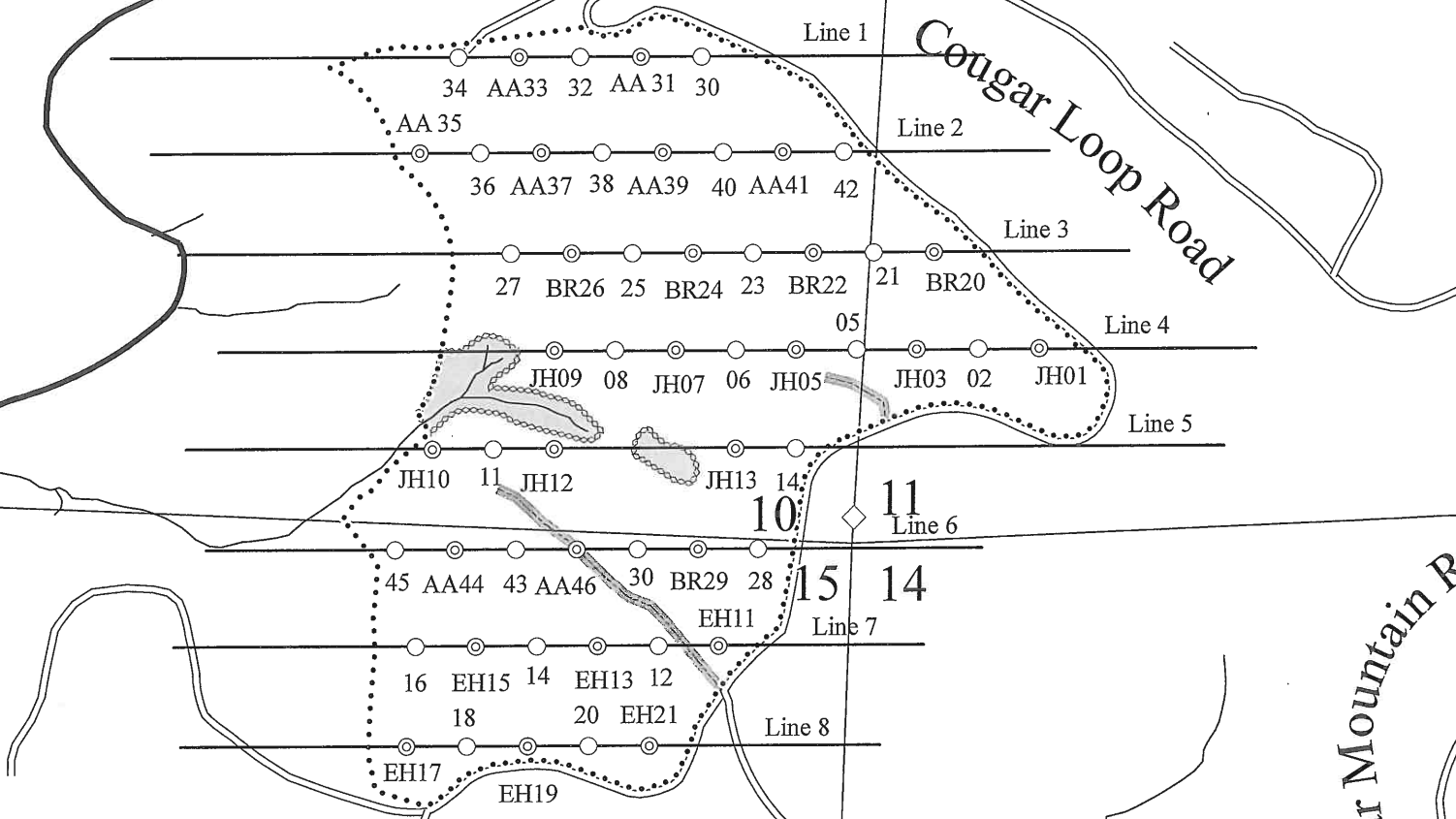
Approved by: [Signature]

Date: 12/20/2016

PRIVATE  
STATE

Cougar Looper - Area 1 (MC)  
53 Plots Total  
Grade Plots: 27  
Count Plots: 26  
Area 1 AZ: 90/270  
BAF (Conifer): 40  
BAF (Hardwoods): 33.61  
Plot Spacing: 2.5 Chains (165 Feet)  
Line Spacing: 4 Chains (264 Feet)  
1:6000

AREA 1

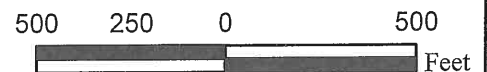


Legend

- Cruise Line
- ⊙ Grade Plot
- Count Plot
- ▭ Ownership
- Fish Stream
- Nonfish Stream
- == Existing Surfaced Road
- ⋯ Timber Sale Boundary
- Section Line
- ▨ New Construction
- ▨ Stream Buffer
- Fish Stream



1 inch = 500 feet



Species, Sort Grade - Board Foot Volumes (Type)										Page 1												
T TSPCSTGR										Date 12/20/2016												
Project: COUGLOOP										Time 3:48:10PM												
T04N R08W S10 TTAKE										T04N R08W S10 TTAKE												
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt													
04N	08W	10	A1	TAKE	56.00	53	194	1	W													
Spp	So	Gr	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	Dia	Bd		CF/Lf		
D	DO	CU		100.0	572												8	18		0.00	3.6	
D	DO	2S	83	.7	19,053	18,926	1,060			21	79		3		3	94	38	18		598	3.23	31.6
D	DO	3S	14	1.2	3,187	3,150	176		65	24	12		8	4	35	53	33	9		119	1.03	26.5
D	DO	4S	1		252	252	14		100				100				17	8		31	0.63	8.0
D	DO	SM	2		263	263	15				100						40	35		2190	9.80	.1
<b>D</b>	<b>Totals</b>		50	3.2	23,327	22,592	1,265		10	21	69		5	1	7	87	32	14		323	2.18	69.9
H	DO	CU		100.0	350												12	15		0.00	3.7	
H	DO	2S	79	.3	9,821	9,794	548			22	78		0		7	93	39	17		512	2.73	19.1
H	DO	3S	17		2,124	2,124	119		91	9			4	2	25	69	36	8		96	0.93	22.0
H	DO	4S	4		446	446	25		96	4			46	54			22	7		32	0.58	13.7
<b>H</b>	<b>Totals</b>		27	3.0	12,742	12,365	692		19	19	61		2	2	10	85	32	11		211	1.56	58.7
A	DO	CU		100.0	435												13	11		0.00	9.0	
A	DO	1S	29	2.4	1,655	1,615	90		2	60	38		26	50		24	29	14		210	1.81	7.7
A	DO	2S	30	.7	1,682	1,670	94		100				10	37	8	45	31	11		125	1.06	13.3
A	DO	3S	9		510	510	29		100				17	32		51	30	8		73	0.93	7.0
A	DO	4S	32	1.0	1,774	1,756	98		100				30	22	6	42	27	6		40	0.63	43.6
<b>A</b>	<b>Totals</b>		12	8.4	6,057	5,551	311		72	17	11		22	36	4	39	27	9		69	0.83	80.5
S	DO	CU		100.0	90												6	28		0.00	.4	
S	DO	2S	44		2,100	2,100	118			18	82		7	13	20	61	36	19		632	3.85	3.3
S	DO	3S	48	.2	2,259	2,254	126		12	26	63		3		36	60	34	14		337	2.76	6.7
S	DO	4S	8		374	374	21		47		53		20		80		24	7		73	0.96	5.1
<b>S</b>	<b>Totals</b>		10	2.0	4,823	4,729	265		9	20	70		6	6	33	56	30	13		304	2.55	15.6
NF	DO	2S	87	8.7	87	80	4			100						100	40	17		420	2.93	.2
NF	DO	3S	13		11	11	1		100							100	36	6		60	0.89	.2
<b>NF</b>	<b>Totals</b>		0	7.7	99	91	5		12		88					100	38	12		240	1.96	.4
<b>Type Totals</b>				3.7	47,047	45,327	2,538		20	20	60		6	6	10	77	30	11		201	1.61	225.0

TC TSTATS				STATISTICS				PAGE	1	
				PROJECT COUGLOOP				DATE	12/16/2016	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
04N	08W	10	A1	0CC1	56.00	53	406	1	W	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
					TREES	TREES				
TOTAL		53	406	7.7						
CRUISE		28	208	7.4	6,769		3.1			
DBH COUNT										
REFOREST										
COUNT		25	193	7.7						
BLANKS										
100 %										
STAND SUMMARY										
	SAMPLE	TREES	AVG	BOLE	REL	BASAL	GROSS	NET	GROSS	NET
	TREES	/ACRE	DBH	LEN	DEN	AREA	BF/AC	BF/AC	CF/AC	CF/AC
DOUG FIR	70	26.5	27.1	88	20.3	105.7	22,755	22,592	4,896	4,896
WHEMLOCK	54	32.4	20.6	60	16.5	74.7	12,391	12,365	2,930	2,930
R ALDER	52	51.6	15.5	44	17.2	67.9	5,621	5,551	1,781	1,781
S SPRUCE	17	8.3	26.5	59	6.2	31.7	4,733	4,729	1,209	1,209
SNAG	13	1.8	35.0	53	2.0	12.1				
NOB FIR	1	.2	27.0	78	0.1	.8	99	91	28	28
CEDLEAV	1	.1	33.0	50	0.1	.8	69	69	19	19
<b>TOTAL</b>	<b>208</b>	<b>120.9</b>	<b>21.1</b>	<b>59</b>	<b>63.9</b>	<b>293.5</b>	<b>45,668</b>	<b>45,395</b>	<b>10,863</b>	<b>10,863</b>
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	88.9	10.6	1,374	1,538	1,701					
WHEMLOCK	98.8	13.4	642	741	841					
R ALDER	87.6	12.1	125	142	159					
S SPRUCE	102.3	25.6	780	1,048	1,316					
SNAG										
NOB FIR										
CEDLEAV										
<b>TOTAL</b>	<b>130.6</b>	<b>9.0</b>	<b>760</b>	<b>836</b>	<b>912</b>	<b>681</b>	<b>170</b>	<b>76</b>		
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	98.7	13.5	23	26	30					
WHEMLOCK	117.1	16.1	27	32	38					
R ALDER	117.5	16.1	43	52	60					
S SPRUCE	169.9	23.3	6	8	10					
SNAG	304.5	41.8	1	2	3					
NOB FIR	728.0	99.9	0	0	0					
CEDLEAV	728.0	99.9	0	0	0					
<b>TOTAL</b>	<b>48.5</b>	<b>6.7</b>	<b>113</b>	<b>121</b>	<b>129</b>	<b>94</b>	<b>23</b>	<b>10</b>		
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	90.4	12.4	93	106	119					
WHEMLOCK	106.6	14.6	64	75	86					
R ALDER	112.2	15.4	57	68	78					
S SPRUCE	159.2	21.8	25	32	39					
SNAG	239.4	32.9	8	12	16					
NOB FIR	728.0	99.9	0	1	2					
CEDLEAV	728.0	99.9	0	1	2					
<b>TOTAL</b>	<b>31.1</b>	<b>4.3</b>	<b>281</b>	<b>294</b>	<b>306</b>	<b>39</b>	<b>10</b>	<b>4</b>		
CL: 68.1 %	COEFF	NET BF/ACRE					# OF PLOTS REQ.		INF. POP.	
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		

TC TSTATS				STATISTICS				PAGE	2	
				PROJECT		COUGLOOP		DATE	12/16/2016	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
04N	08W	10	A1	0CC1	56.00	53	406	1	W	
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		94.5	13.0	19,660	22,592	25,523				
WHEMLOCK		122.9	16.9	10,279	12,365	14,451				
R ALDER		121.5	16.7	4,625	5,551	6,476				
S SPRUCE		166.8	22.9	3,646	4,729	5,811				
SNAG										
NOB FIR		728.0	99.9	0	91	182				
CEDLEAV		728.0	99.9	0	69	137				
<b>TOTAL</b>		50.2	6.9	42,265	45,395	48,526	101	25	11	



TC TSTATS				STATISTICS				PAGE 1		
				PROJECT COUGLOOP				DATE 12/16/2016		
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
04N	08W	10	A1	TAKE	56.00	53	389	1	W	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
					TREES	TREES				
TOTAL	53	389	7.3							
CRUISE	28	194	6.9		6,661		2.9			
DBH COUNT										
REFOREST										
COUNT	25	190	7.6							
BLANKS										
100 %										
STAND SUMMARY										
	SAMPLE	TREES	AVG	BOLE	REL	BASAL	GROSS	NET	GROSS	NET
	TREES	/ACRE	DBH	LEN	DEN	AREA	BF/AC	BF/AC	CF/AC	CF/AC
DOUG FIR	70	26.5	27.1	88	20.3	105.7	22,755	22,592	4,896	4,896
WHEMLOCK	54	32.4	20.6	60	16.5	74.7	12,391	12,365	2,930	2,930
R ALDER	52	51.6	15.5	44	17.2	67.9	5,621	5,551	1,781	1,781
S SPRUCE	17	8.3	26.5	59	6.2	31.7	4,733	4,729	1,209	1,209
NOB FIR	1	.2	27.0	78	0.1	.8	99	91	28	28
<b>TOTAL</b>	<i>194</i>	<i>118.9</i>	<i>20.8</i>	<i>59</i>	<i>61.5</i>	<i>280.7</i>	<i>45,600</i>	<i>45,327</i>	<i>10,844</i>	<i>10,844</i>
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	88.9	10.6	1,374	1,538	1,701					
WHEMLOCK	98.8	13.4	642	741	841					
R ALDER	87.6	12.1	125	142	159					
S SPRUCE	102.3	25.6	780	1,048	1,316					
NOB FIR										
<b>TOTAL</b>	<i>124.0</i>	<i>8.9</i>	<i>814</i>	<i>894</i>	<i>973</i>	<i>614</i>	<i>153</i>	<i>68</i>		
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	98.7	13.5	23	26	30					
WHEMLOCK	117.1	16.1	27	32	38					
R ALDER	117.5	16.1	43	52	60					
S SPRUCE	169.9	23.3	6	8	10					
NOB FIR	728.0	99.9	0	0	0					
<b>TOTAL</b>	<i>50.1</i>	<i>6.9</i>	<i>111</i>	<i>119</i>	<i>127</i>	<i>100</i>	<i>25</i>	<i>11</i>		
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	90.4	12.4	93	106	119					
WHEMLOCK	106.6	14.6	64	75	86					
R ALDER	112.2	15.4	57	68	78					
S SPRUCE	159.2	21.8	25	32	39					
NOB FIR	728.0	99.9	0	1	2					
<b>TOTAL</b>	<i>34.2</i>	<i>4.7</i>	<i>267</i>	<i>281</i>	<i>294</i>	<i>47</i>	<i>12</i>	<i>5</i>		
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	94.5	13.0	19,660	22,592	25,523					
WHEMLOCK	122.9	16.9	10,279	12,365	14,451					
R ALDER	121.5	16.7	4,625	5,551	6,476					
S SPRUCE	166.8	22.9	3,646	4,729	5,811					
NOB FIR	728.0	99.9	0	91	182					
<b>TOTAL</b>	<i>50.3</i>	<i>6.9</i>	<i>42,195</i>	<i>45,327</i>	<i>48,459</i>	<i>101</i>	<i>25</i>	<i>11</i>		

**Stand Table Summary**

**Project COUGLOOP**

**T04N R08W S10 TTAKE**

**T04N R08W S10 TTAK**

**Twp Rge Sec Tract**  
**04N 08W 10 A1**

**Type Acres Plots Sample Trees**  
**TAKE 56.00 53 194**

**Page: 1**  
**Date: 12/16/20**  
**Time: 1:49:31PM**

S SpC	T	Sample		Av		Trees/ Acre	BA/ Acre	Logs Acre	Average Log		Tons/ Acre	Net Cu.Ft. Acre	Net Bd.Ft. Acre	Totals		
		DBH	Trees	FF 16'	Ht Tot				Net Cu.Ft.	Net Bd.Ft.				Tons	Cunits	MBF
D		16	3	86	92	3.243	4.53	6.49	24.7	86.7	4.30	160	562	241	90	31
D		17	2	87	73	1.915	3.02	2.87	30.3	96.7	2.08	87	278	117	49	16
D		18	2	83	88	1.708	3.02	3.42	27.8	87.5	2.37	95	299	133	53	17
D		20	1	85	95	.692	1.51	1.38	42.0	150.0	1.56	58	208	87	33	12
D		21	2	85	104	1.255	3.02	3.14	38.6	144.0	3.39	121	452	190	68	25
D		22	4	85	104	2.287	6.04	5.15	44.7	156.7	6.09	230	806	341	129	45
D		23	2	87	104	1.046	3.02	2.62	46.6	184.0	3.61	122	481	202	68	27
D		24	3	86	118	1.441	4.53	3.84	48.3	193.7	5.59	185	745	313	104	42
D		25	5	87	112	2.214	7.55	5.76	55.9	220.8	9.83	322	1,271	550	180	71
D		26	2	87	120	.819	3.02	2.46	56.2	235.0	4.33	138	577	242	77	32
D		27	5	87	128	1.898	7.55	5.69	64.5	276.0	11.93	367	1,572	668	206	88
D		28	1	89	103	.353	1.51	.71	88.5	360.0	1.91	62	254	107	35	14
D		29	6	86	115	1.974	9.06	5.59	68.5	302.9	12.91	383	1,695	723	215	95
D		30	3	87	124	.922	4.53	2.77	78.1	355.6	7.38	216	984	413	121	55
D		31	1	85	133	.288	1.51	.86	87.3	393.3	2.55	75	340	143	42	19
D		32	1	86	90	.270	1.51	.81	55.0	260.0	1.64	45	211	92	25	12
D		33	1	88	132	.254	1.51	.76	98.0	473.3	2.71	75	361	152	42	20
D		35	1	89	148	.226	1.51	.68	123.0	633.3	3.22	83	429	180	47	24
D		37	1	83	137	.202	1.51	.61	123.3	593.3	2.70	75	360	151	42	20
D		38	1	86	158	.192	1.51	.57	151.3	776.7	3.35	87	447	188	49	25
D		39	4	88	155	.728	6.04	2.37	142.9	766.9	13.61	338	1,814	762	189	102
D		40	2	87	155	.346	3.02	1.04	164.2	856.7	6.67	170	889	373	95	50
D		43	1	88	158	.150	1.51	.45	197.0	1073.3	3.61	88	482	202	50	27
D		44	3	87	153	.429	4.53	1.29	195.1	1034.4	9.98	251	1,331	559	141	75
D		45	2	87	171	.273	3.02	.96	193.7	1081.4	7.76	185	1,035	435	104	58
D		46	5	85	149	.654	7.55	1.83	185.6	962.9	13.50	340	1,763	756	190	99
D		47	1	88	157	.125	1.51	.38	233.3	1243.3	3.50	88	467	196	49	26
D		48	3	89	163	.360	4.53	1.08	248.2	1368.9	11.10	268	1,480	622	150	83
D		52	1	86	171	.102	1.51	.41	223.2	1265.0	3.88	91	518	218	51	29
D		53	1	88	157	.099	1.51	.30	297.7	1633.3	3.62	88	483	203	49	27
D		Totals	70	86	112	26.468	105.66	66.26	73.9	340.9	170.66	4,896	22,592	9,557	2,742	1,265
H		12	1	86	34	1.762	1.38	1.76	13.0	30.0	.40	23	53	22	13	3
H		13	3	85	37	4.503	4.15	4.50	15.7	40.0	1.35	71	180	76	40	10
H		14	1	86	42	1.294	1.38	1.29	19.0	50.0	.49	25	65	27	14	4
H		15	5	85	53	5.637	6.92	6.76	22.8	61.7	3.13	154	417	175	87	23
H		16	2	89	61	1.982	2.77	2.97	24.0	73.3	1.64	71	218	92	40	12
H		17	2	90	93	1.756	2.77	3.51	32.2	117.5	3.09	113	413	173	63	23
H		18	4	86	57	3.132	5.53	3.91	31.6	100.0	2.94	124	391	164	69	22
H		21	2	90	94	1.151	2.77	2.30	51.3	195.0	3.37	118	449	188	66	25
H		22	3	88	96	1.572	4.15	3.14	55.8	205.0	4.91	176	645	275	98	36
H		23	4	88	113	1.918	5.53	5.28	52.6	222.7	8.81	278	1,175	493	155	66
H		24	2	88	105	.881	2.77	2.20	59.0	240.0	3.96	130	529	222	73	30
H		25	2	89	109	.812	2.77	2.03	66.0	286.0	4.35	134	580	244	75	33
H		26	3	88	104	1.126	4.15	2.25	74.7	340.0	5.74	168	766	322	94	43
H		27	2	88	120	.696	2.77	2.09	67.8	315.0	4.93	142	658	276	79	37
H		28	4	88	104	1.294	5.53	3.24	78.1	336.0	8.15	253	1,087	457	142	61
H		30	1	86	111	.282	1.38	.56	96.0	440.0	1.86	54	248	104	30	14
H		32	1	85	127	.248	1.38	.74	98.0	473.3	2.64	73	352	148	41	20
H		33	4	86	121	.932	5.53	2.33	109.6	551.0	9.63	255	1,284	539	143	72
H		35	2	89	126	.414	2.77	1.24	120.2	628.3	5.86	149	781	328	84	44
H		36	2	85	135	.391	2.77	1.17	120.0	610.0	5.37	141	716	301	79	40
H		37	1	91	127	.185	1.38	.56	137.3	746.7	3.17	76	415	177	43	23

**Stand Table Summary**

**Project COUGLOOP**

**T04N R08W S10 TTAKE**

**T04N R08W S10 TTAK**

**Twp Rge Sec Tract**  
**04N 08W 10 A1**

**Type Acres Plots Sample Trees**  
**TAKE 56.00 53 194**

**Page: 2**  
**Date: 12/16/20**  
**Time: 1:49:31PM**

S Spc	T	DBH	Sample Trees	FF 16'	Av Ht Tot	Trees/ Acre	BA/ Acre	Logs Acre	Average Log		Tons/ Acre	Net Cu.Ft. Acre	Net Bd.Ft. Acre	Totals		
									Net Cu.Ft.	Net Bd.Ft.				Tons	Cunits	MBF
H		38	1	85	99	.176	1.38	.35	166.0	725.0	1.91	58	255	107	33	14
H		42	1	78	99	.144	1.38	.29	195.0	695.0	1.56	56	200	88	31	11
H		43	1	89	154	.137	1.38	.41	215.0	1190.0	3.67	88	490	206	50	27
H		Totals	54	87	74	32.425	74.72	54.91	53.4	225.2	92.94	2,930	12,365	5,204	1,641	692
A		10	2	87	18	4.785	2.61	4.78	7.0	30.0	1.08	33	144	60	19	8
A		11	1	86	45	1.977	1.30									
A		12	2	86	43	3.323	2.61	3.32	16.5	45.0	1.12	55	150	63	31	8
A		13	2	86	28	2.831	2.61	2.83	12.5	30.0	.64	35	85	36	20	5
A		14	8	87	64	9.765	10.44	14.65	19.1	61.7	6.87	280	903	385	157	51
A		15	7	86	64	7.443	9.13	11.70	22.9	70.0	6.22	268	819	348	150	46
A		16	7	87	64	6.542	9.13	11.21	23.2	75.0	6.31	260	841	353	145	47
A		17	6	87	65	4.967	7.83	7.45	31.1	90.0	5.03	232	671	282	130	38
A		18	7	86	62	5.169	9.13	6.65	33.4	88.9	4.49	222	591	251	124	33
A		19	1	86	62	.663	1.30	1.33	30.5	105.0	1.04	40	139	58	23	8
A		20	2	87	60	1.196	2.61	1.79	39.0	93.3	1.26	70	167	70	39	9
A		22	2	86	71	.989	2.61	1.98	42.8	145.0	2.22	85	287	125	47	16
A		23	1	87	74	.452	1.30	.90	49.5	150.0	1.09	45	136	61	25	8
A		24	2	86	66	.831	2.61	1.66	42.0	160.0	2.06	70	266	115	39	15
A		25	1	87	74	.383	1.30	.77	52.5	215.0	1.23	40	165	69	23	9
A		30	1	86	78	.266	1.30	.53	86.5	355.0	1.52	46	189	85	26	11
A		Totals	52	87	56	51.582	67.85	71.55	24.9	77.6	42.16	1,781	5,551	2,361	997	311
S		13	1	82	45	2.023	1.86	2.02	19.0	50.0	.61	38	101	34	22	6
S		20	1	82	59	.855	1.86	1.71	30.0	90.0	.92	51	154	52	29	9
S		22	1	83	75	.706	1.86	1.41	46.5	135.0	1.14	66	191	64	37	11
S		23	1	82	69	.646	1.86	1.29	48.0	135.0	1.05	62	174	59	35	10
S		25	1	82	59	.547	1.86	1.09	48.5	155.0	1.02	53	170	57	30	9
S		28	1	85	99	.436	1.86	.87	94.0	360.0	1.88	82	314	105	46	18
S		29	2	82	82	.813	3.73	1.63	82.3	275.0	2.68	134	447	150	75	25
S		31	1	79	86	.356	1.86	.71	93.5	360.0	1.54	67	256	86	37	14
S		34	2	80	100	.591	3.73	1.48	108.6	448.0	3.97	161	662	223	90	37
S		35	1	81	99	.279	1.86	.56	143.5	560.0	1.88	80	313	105	45	18
S		36	1	72	79	.264	1.86	.53	122.0	395.0	1.25	64	208	70	36	12
S		39	1	86	99	.225	1.86	.45	182.0	795.0	2.17	82	357	122	46	20
S		40	1	85	98	.214	1.86	.43	171.0	795.0	2.04	73	340	114	41	19
S		42	1	86	127	.194	1.86	.58	162.7	853.3	2.98	95	496	167	53	28
S		52	1	85	127	.126	1.86	.38	267.7	1436.7	3.27	102	545	183	57	31
S		Totals	17	82	73	8.275	31.70	15.14	79.8	312.3	28.40	1,209	4,729	1,590	677	265
NF		27	1	85	88	.190	.75	.38	74.5	240.0	.69	28	91	39	16	5
NF		Totals	1	85	88	.190	.75	.38	74.5	240.0	0.69	28	91	39	16	5
Totals			194	86	74	118.940	280.68	208.25	52.1	217.7	334.85	10844	45,327	18,751	6,073	2,538

**Log Stock Table - MBF**  
**Project: COUGLOOP**

**T04N R08W S10 TTAK**

**T04N R08W S10 TTAK**

**Twp Rge Sec Tract Type Acres Plots Sample Trees**  
**04N 08W 10 A1 TAKE 56.00 53 194**

**Page 1**  
**Date 12/16/2016**  
**Time 2:04:34PM**

Spp	T	S	So	Gr	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	16-20	21-25	26-29	30-39	40+
D		DO	CU		4																	
D		DO	CU		6																	
D		DO	CU		8																	
D		DO	CU		12																	
D		DO	CU		20																	
D		DO	CU		27																	
D		DO	2S		16		14	3.1	14	1.1					1		7				7	
D		DO	2S		18		1		1	.1						1						
D		DO	2S		20		19	5.0	18	1.4				4	1	6	7					
D		DO	2S		32		32		32	2.6				17		12	4					
D		DO	2S		36		14		14	1.1				2								13
D		DO	2S		40		985	.6	980	77.4				55	77	260	207	175			206	
D		DO	3S		16		9	16.3	8	.6				2	1			5				
D		DO	3S		20		6		6	.5				1	2	3						
D		DO	3S		24		4		4	.3				3	1							
D		DO	3S		30		4		4	.3				2			2					
D		DO	3S		32		59		59	4.7				15	4	24	9	8				
D		DO	3S		34		2		2	.2				2								
D		DO	3S		36		8		8	.6				3	2		2					
D		DO	3S		38		2		2	.2				2								
D		DO	3S		40		84	.7	84	6.6				7	14	30	2	12	19			
D		DO	4S		16		12		12	.9				3	8	1						
D		DO	4S		20		2		2	.2				1	1							
D		DO	SM		40		15		15	1.2												15
D		Totals					1,274		1,265	49.8				33	33	63	92	103	298	229	175	241
H		DO	CU																			
H		DO	CU		4																	
H		DO	CU		6																	
H		DO	CU		16																	
H		DO	CU		24																	
H		DO	CU		32																	
H		DO	2S		20		1		1	.2					1							
H		DO	2S		32		38		38	5.5					8	14	16					
H		DO	2S		36		10		10	1.5						10						
H		DO	2S		40		500	.3	499	72.1					28	55	238	88	74		15	
H		DO	3S		16		1		1	.1					1							
H		DO	3S		20		4		4	.5					2							
H		DO	3S		22		1		1	.2					1							
H		DO	3S		30		2		2	.3					2							
H		DO	3S		32		26		26	3.7					14	5	2	4				
H		DO	3S		34		4		4	.6					4							
H		DO	3S		40		82		82	11.9					18	4	55	2	3			
H		DO	4S		16		8		8	1.1					1	5		1				
H		DO	4S		18		1		1	.2					1							
H		DO	4S		20		3		3	.4					3							
H		DO	4S		24		5		5	.7					5							
H		DO	4S		26		3		3	.4					3							
H		DO	4S		30		6		6	.8					6							

**Log Stock Table - MBF**  
**Project: COUGLOOP**

**T04N R08W S10 TTAKE**

**T04N R08W S10 TTAK**

**Twp Rge Sec Tract Type Acres Plots Sample Trees**  
**04N 08W 10 A1 TAKE 56.00 53 194**

**Page 2**  
**Date 12/16/2016**  
**Time 2:04:34PM**

Spp	S	So	Gr	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	16-20	21-25	26-29	30-39
H	Totals					694		692	27.3			57	12	64	41	77	264	88	74	15
A	DO	CU	4																	
A	DO	CU	6																	
A	DO	CU	8																	
A	DO	CU	10																	
A	DO	CU	12																	
A	DO	CU	30																	
A	DO	1S	16			6	9.5	5	1.7								5			
A	DO	1S	20			18		18	5.8								13			
A	DO	1S	30			47	2.6	46	14.6					2	27		8	9		
A	DO	1S	40			22	2.3	22	6.9						7	15				
A	DO	2S	16			5		5	1.5					5						
A	DO	2S	20			5	12.5	5	1.5					5						
A	DO	2S	30			34		34	11.0					34						
A	DO	2S	32			7		7	2.4					7						
A	DO	2S	40			42		42	13.6					42						
A	DO	3S	20			5		5	1.5											
A	DO	3S	30			9		9	3.0					8						
A	DO	3S	36			2		2	.6											
A	DO	3S	40			13		13	4.1											
A	DO	4S	16			10		10	3.1											
A	DO	4S	18			1		1	.2											
A	DO	4S	20			20		20	6.3											
A	DO	4S	24			5		5	1.6											
A	DO	4S	28			3		3	.8											
A	DO	4S	30			14		14	4.5											
A	DO	4S	32			3		3	1.1											
A	DO	4S	34			2	16.7	2	.7											
A	DO	4S	36			4		4	1.3											
A	DO	4S	38			4	16.7	3	1.0											
A	DO	4S	40			34		34	11.0											
A	Totals					315	1.3	311	12.2			101	18	103	39	15	26	9		
S	DO	CU	6																	
S	DO	2S	20			8		8	3.0											8
S	DO	2S	30			15		15	5.6											15
S	DO	2S	32			24		24	8.9					8						16
S	DO	2S	40			71		71	26.9					9	4	15	15	10		19
S	DO	3S	16			1		1	.4					1						
S	DO	3S	20			3		3	1.2											2
S	DO	3S	32			46		46	17.3					2	3	14	6	21		
S	DO	3S	40			76	.3	76	28.8					8	3	11	4	16	17	17
S	DO	4S	16			3		3	1.1											
S	DO	4S	20			1		1	.4											
S	DO	4S	32			17		17	6.4											11
S	Totals					265		265	10.4			9	10	6	32	22	50	52	35	50
NF	DO	2S	40			5	8.7	4	87.5								4			
NF	DO	3S	36			1		1	12.5					1						

TC TLOGSTVB

**Log Stock Table - MBF**  
**Project: COUGLOOP**

**T04N R08W S10 TTAKE**

**T04N R08W S10 TTAK**

**Twp Rge Sec Tract Type Acres Plots Sample Trees**  
**04N 08W 10 A1 TAKE 56.00 53 194**

**Page 3**  
**Date 12/16/2016**  
**Time 2:04:34PM**

S Spp	So T	Gr rt	Log de 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	16-20	21-25	26-29	30-39	40+
NF			Totals	6	7.7	5	.2			1				4					
Total All Species				2,554		2,538	100.0		201	72	235	204	216	642	378	284	305		