



"STEWARDSHIP IN FORESTRY"

# Timber Sale Appraisal Cost Summary County Line Return Sale 341-03-015

District: Tillamook

Date: 5/9/02

	Conifer	Hardwood	Total
<b>Gross Timber Sale Value</b>	\$765,598.10	\$0.00	\$765,598.10
		<b>Project Work</b>	(\$163,750.00)
		<b>Advertised Value</b>	\$601,848.10



# Timber Sale Appraisal Timber Description County Line Return Sale 341-03-015

"STEWARDSHIP IN FORESTRY"

**District:** Tillamook

**Location:** Secs. 28, 32 & 33, T4N, R9W, Clatsop Co Secs. 5&8, T3N, R9W, and Sec 12, T3N, R10W, Tillamook Co.

**Date:** 5/9/02

**Stand Stocking:** 80%

Species	Avg. DBH	Amortized%	Recovery%
Douglas - Fir	13	0	95
Western Hemlock / Fir	13	0	95
Sitka Spruce	11	0	95

Volume by Grade	Douglas - Fir	Western Hemlock / Fir	Sitka Spruce	Total
3S	2,720	200	35	2,955
4S	676	62	23	761
<b>Total</b>	<b>3,396</b>	<b>262</b>	<b>58</b>	<b>3,716</b>

**Comments:** Pond Values Used: 1st Quarter 2002

See Additional Cost page for breakdown of Other Costs

Hardwood stumpage: \$ 196.85

\$ 450.00(Local Pond Value) - \$ 253.15 (Logging Cost)



# Timber Sale Appraisal Logging Conditions County Line Return Sale 341-03-015

"STEWARDSHIP IN FORESTRY"

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<b>Combination#:</b> 1	Douglas - Fir	80.00%	
	Western Hemlock / Fir	67.00%	
	Sitka Spruce	93.00%	
<b>Yarding Distance:</b>	Medium (800 ft)		<b>Downhill Yarding</b> Yes
<b>Logging System:</b>	Wheel Skidder		<b>Process:</b> Manual Falling/Delimiting
<b>Tree Size:</b>	Small / Thinning 12in (130 Bft/tree), 12-17 logs/MBF		
<b>Loads/Day:</b>	7		<b>Bd. Ft./Load:</b> 3,200
<b>Cost/MBF:</b>	\$133.96		
<b>Machines:</b>			
	Log Loader (B)		
	Tire Skidder		
<b>Combination#:</b> 2	Douglas - Fir	20.00%	
	Western Hemlock / Fir	33.00%	
	Sitka Spruce	7.00%	
<b>Yarding Distance:</b>	Short (400 ft)		<b>Downhill Yarding</b> No
<b>Logging System:</b>	Cable: Small Tower <=40		<b>Process:</b> Manual Delimiting
<b>Tree Size:</b>	Small / Thinning 12in (130 Bft/tree), 12-17 logs/MBF		
<b>Loads/Day:</b>	5		<b>Bd. Ft./Load:</b> 3,200
<b>Cost/MBF:</b>	\$161.13		
<b>Machines:</b>			
	Log Loader (A)		
	Tower Yarder (Small)		



# Timber Sale Appraisal Logging Costs County Line Return Sale 341-03-015

"STEWARDSHIP IN FORESTRY"

Date: 5/9/02

Operating Seasons: 2.4

Profit & Risk: 20%

Project Costs: \$163,750

Other Costs (P/R): \$8,746

Slash Disposal: \$0

Other Costs: \$19,962

Miles of Road			
Dirt	Rock (Contractor)	Rock (State)	Paved
0.0	0.0	0.0	0.0

Road Maintenance: \$3.80

### Hauling Costs

Species	\$/MBF	Trips/Day	MBF/Load
Douglas - Fir	\$0.00	2.0	3.2
Western Hemlock / Fir	\$0.00	3.0	3.0
Sitka Spruce	\$0.00	2.0	3.0



"STEWARDSHIP IN FORESTRY"

# Timber Sale Appraisal Logging Costs Breakdown County Line Return Sale 341-03-015

Costs	Douglas - Fir	Western Hemlock / Fir	Sitka Spruce
<b>Logging</b>	139.39	142.93	135.86
<b>Road Maintenance</b>	4.00	4.00	4.00
<b>Fire Protection</b>	1.75	1.75	1.75
<b>Hauling</b>	69.16	53.79	80.84
<b>Other (P/R appl.)</b>	2.35	2.35	2.35
<b>Profit &amp; Risk</b>	43.33	40.96	44.96
<b>Slash Disposal</b>	0.00	0.00	0.00
<b>Scaling</b>	2.00	2.00	2.00
<b>Other</b>	5.37	5.37	5.37
<b>Total</b>	267.35	253.15	277.13

<b>Amortization</b>	0.00	0.00	0.00
<b>Pond Value</b>	486.07	330.53	321.12
<b>Stumpage</b>	218.72	77.38	43.99
<b>Amortized</b>	0.00	0.00	0.00



"STEWARDSHIP IN FORESTRY"

# Timber Sale Appraisal Summary County Line Return Sale 341-03-015

**Amortized**

	Douglas - Fir	Western Hemlock / Fir	Sitka Spruce
<b>MBF</b>	0.00	0.00	0.00
<b>Value</b>	0.00	0.00	0.00
<b>Total</b>	0.00	0.00	0.00

**Unamortized**

	Douglas - Fir	Western Hemlock / Fir	Sitka Spruce
<b>MBF</b>	3,396.00	262.00	58.00
<b>Value</b>	218.72	77.38	43.99
<b>Total</b>	742,773.12	20,273.56	2,551.42

**Gross Timber Sale Value**

**Recovery \$765,598.10**

Prepared by: Barbara Moore

Date: 5/9/02

District: Tillamook

Phone: (503) 842-2545

**Additional Costs**

**County Line Return**



Cable Yarding Volume:	761 MBF
Ground Yarding Volume:	2955 MBF
<b>Total Sale Volume:</b>	<b>3716 MBF</b>

ADDITIONAL COSTS - PROFIT & RISK TO BE ADDED						
Harvesting:		Cost / Day	# Days			
Directional Felling		\$ 150	x 3	=	\$	450
Flaggers		\$ 288	x 3	=	\$	864
Yarding & Loading:		Cost / MBF	Volume (MBF)			
Brand & Paint:		\$ 2	x 3716	=		\$7,432
<b>OTHER COSTS TOTAL</b>						<b>\$ 8,746</b>

ADDITIONAL COSTS - PROFIT & RISK INCLUDED							
Non-Project Roads: Machine work							
Road 1	10	Stations	x	\$ 110	=	\$1,100	
Road 2	23	Stations	x	\$ 150	=	\$3,450	
Road 3	31	Stations	x	\$ 110	=	\$3,410	
Road 4	1	Stations	x	\$ 110	=	\$110	
Road 5	19	Stations	x	\$ 75	=	\$1,425	
Road 6	27	Stations	x	\$ 110	=	\$2,970	
	111					\$12,465	
Temporary Approach Permit	2		x	\$ 50	=	\$100	
Non-Project Roads: Rocking <sup>1</sup>							
Road 1	2	Stations	x	\$ 582	=	\$1,164	
Road 3	2	Stations	x	\$ 582	=	\$1,164	
Road 5	2	Stations	x	\$ 582	=	\$1,164	
	3100	cy. yds.				\$3,492	
		<sup>1</sup> Pit Run Rock - 50 cu yds/Sta @ \$11.64/cu yd					
<b>Non-Project Roads Cost</b>						<b>\$16,057</b>	
Rehabilitation work							
Culvert Removal:							
	2	Log culverts	x	\$ 300	=	\$ 600	
	1	Metal culverts	x	\$ 230	=	\$ 230	
Sediment Control:							
	15	acres	x	\$ 180	=	\$ 2,700	
of Non-project roads & skid trails							
	5	rolls(100')	x	\$ 75	=	\$ 375	
<b>Other Costs</b>						<b>\$ 3,905</b>	
<b>OTHER COSTS TOTAL</b>						<b>\$ 19,962</b>	

April 10, 2002

ROAD MAINTENANCE					
	\$/Mile	MMBF	Miles		\$/MBF
*Grading:	\$500	3.00	5		\$1.01
**Ditch Clearing and End Haul					\$0.77
	\$/Yd	MMBF	Miles	CuYd	\$/MBF
Replacement rock	\$14.50	0.80	1	50	\$0.73
***Maintenance rock	\$14.50	2.20	4	50	\$0.86
Rolling w/ final maintenance - Coal Creek & County Line roads					
	\$11.00	per Sta	146	Stations	\$0.43
<b>TOTAL ROAD MAINTENANCE COST / MBF:</b>					<b>\$3.80</b>
*Assumes grading the road once per 2 MMBF					
**Includes cost for excavating, hauling, and sediment control devices.					
***Assumes 50 cy for normal maintenance /2 MMBF/mile					
All rock costs included purchase price from private source					

**PROJECT SUMMARY SHEET**

Sale: County Line Return

**CONSTRUCTION**

Point	I to D	stations = 3.0	\$3,533.11
<b>SUBTOTAL CONSTRUCTION</b>			<b>\$3,533.11</b>

**IMPROVEMENT**

Point	A to B	stations = 153.9	\$94,652.00
Point	C to D	stations = 33.3	\$14,932.55
Point	E to F	stations = 23.5	\$6,695.24
Point	G to H	stations = 3.7	\$4,157.10
Point	I to D	stations = 13.3	\$14,132.43
<b>SUBTOTAL IMPROVEMENT</b>			<b>\$134,569.32</b>

**SPECIAL PROJECTS**

<u>Road vacating @ points J, K, L and M</u>	\$15,927.56
<u>Road vacating between points F and F1</u>	\$3,500.10
<u>Remove culverts from STATE land</u>	\$1,296.00
<b>SUBTOTAL SPECIAL PROJECTS \$</b>	<b>20,723.66</b>

**MOVE IN** \$4,923.90

**GRAND TOTAL** **\$163,750.00**



## SUMMARY OF CONSTRUCTION COST

Sale: County Line Return

Road: Segment A to B

Construction - \_\_\_\_\_ stations  
 \_\_\_\_\_ miles

Improvement - 153+90 stations  
2.91 miles

**CLEARING, GRUBBING and BRUSHING -**

Brushing	1.00 Miles @	\$1,000.00 mile =	\$1,000.00	
Scattering - including waste area	4.75 acres @	\$815.00 per acre =	\$3,871.25	
Piling	0.00 acres @	\$905.00 per acre =	\$0.00	
Pile-Burn	0.00 acres @	\$1,458.00 per acre =	\$0.00	
Endhaul	0.00 acres @	\$1,500.00 per acre =	\$0.00	
<b>TOTAL CLEARING AND GRUBBING</b>				<b>\$4,871.25</b>

**EXCAVATION -**

Remove log/metal culverts, endhaul fill material to waste area & compact reconstruct fills			<u>\$12,645.00</u>	
			TOTAL	<b>\$12,645.00</b>

**CULVERTS - MATERIALS & INSTALLATION**

**Culverts**

464 LF of 18"	\$6,844.00	328 LF of 24"	\$5,822.00
0 LF of 30"	\$0.00	0 LF of 36"	\$0.00
0 LF of 42"	\$0.00	0 LF of 48"	\$0.00
0 LF of 54"	\$0.00	0 LF of 60"	\$0.00
	<u>\$6,844.00</u>		<u>\$5,822.00</u>

**Half Rounds**

20 LF of 21"	\$228.00	0 LF of 30"	\$0.00
0 LF of 36"	\$0.00	0 LF of 42"	\$0.00
0 LF of 48"	\$0.00	0 LF of 54"	\$0.00
0 LF of 60"	\$0.00	0 LF of 66"	\$0.00
	<u>\$228.00</u>		<u>\$0.00</u>

**Culvert Stakes & Markers**

4 stakes	\$32.00
20 markers	\$120.00
	<u>\$152.00</u>

**TOTAL CULVERTS \$13,046.00**

**SURFACING-**

2,976 cy. of 2 1/2'-0"	@	\$14.49 per c.y.=	\$43,122.24	
Culvert backfill 280 cy. of Crushed	@	\$4.28 per c.y.=	\$1,198.40	
703 cy. of Pit Run	@	\$11.64 per c.y.=	\$8,182.92	
70 cy. of Rip Rap	@	\$13.20 per c.y.=	\$924.31	
<b>TOTAL SURFACING</b>				<b>\$53,427.87</b>

**SPECIAL PROJECTS**

Remove culverts @ sta. 60+70, 76+90, 86+50, 112+30, 118+70 & 122+70 backfill & comp. -	\$320.00	
Excavate, endhaul and compact slump material between stations 91+70 - 93+40	\$174.12	
Pump for water diversion	\$823.00	
Grade improvements - 2 hours w/D8	\$260.00	
Grade and shape road - 153.9 stations @ \$17.40/station	\$2,677.86	
Roll road - 153.9 stations @ \$11/station	\$1,692.90	
Straw Bales - 32 @ \$3.50/Bale	\$112.00	
Seed, fertilize and mulch - 3.9 acres @ \$1180/acre	\$4,602.00	
<b>TOTAL SPECIAL PROJECTS</b>		<b>\$10,661.88</b>

**GRAND TOTAL \$94,652.00**



## SUMMARY OF CONSTRUCTION COST

Sale: County Line Return Road: Segment E to F

Construction -                      stations Improvement - 23+50 stations  
                     miles                      miles

**CLEARING AND GRUBBING -**

Side cast	0.00 acres @	\$540.00 per acre =	\$0.00	
Scattering	1.62 acres @	\$815.00 per acre =	\$1,319.04	
Piling	0.00 acres @	\$905.00 per acre =	\$0.00	
Pile-Burn	0.00 acres @	\$1,458.00 per acre =	\$0.00	
Endhaul	0.00 acres @	\$1,500.00 per acre =	\$0.00	
<b>TOTAL CLEARING AND GRUBBING</b>			<b>\$1,319.04</b>	

**EXCAVATION -**

	23.5 sta. @	\$50.00 per sta. =	\$1,175.00	
Sidecast pullback, widening endhaul and compact 10+50-13+25	230 cys. @	\$2.95 per c.y. =	\$678.50	
<b>TOTAL EXCAVATION</b>			<b>\$1,853.50</b>	

**CULVERTS - MATERIALS & INSTALLATION**

**Culverts**

88 LF of 18"	\$1,298.00	0 LF of 24"	\$0.00	
0 LF of 30"	\$0.00	0 LF of 36"	\$0.00	
0 LF of 42"	\$0.00	0 LF of 48"	\$0.00	
0 LF of 54"	\$0.00	0 LF of 60"	\$0.00	
<u>\$1,298.00</u>		<u>\$0.00</u>		

**Half Rounds**

0 LF of 21"	\$0.00	0 LF of 30"	\$0.00	
0 LF of 36"	\$0.00	0 LF of 42"	\$0.00	
0 LF of 48"	\$0.00	0 LF of 54"	\$0.00	
0 LF of 60"	\$0.00	0 LF of 66"	\$0.00	
<u>\$0.00</u>		<u>\$0.00</u>		

**Culvert Stakes & Markers**

0 stakes	\$0.00			
2 markers	\$12.00			
<u>\$12.00</u>		<b>TOTAL CULVERTS</b>		<b>\$1,310.00</b>

**SURFACING-**

Road	100 cy. of Pitrun @	\$10.78 per c.y.=	\$1,078.00	
<b>TOTAL SURFACING</b>			<b>\$1,078.00</b>	

**SPECIAL PROJECTS**

Grade and shape road - 23.5 stations @ \$17.40/station		\$404.20	
Roll road - 23.5 stations @ \$11/station		\$258.50	
Seed, fertilize and mulch - .4 acres @ \$1180/acre		\$472.00	
<b>TOTAL SPECIAL PROJECTS</b>			<b>\$1,134.70</b>

**GRAND TOTAL** **\$6,695.24**

## SUMMARY OF CONSTRUCTION COST

Sale: County Line Return Road: Segment G to H

Construction -                      stations Improvement - 3+70 stations  
                     miles                      miles

**CLEARING AND GRUBBING -**

Side cast	0.00 acres @	\$540.00 per acre =		\$0.00	
Scattering	0.26 acres @	\$815.00 per acre =		\$211.90	
Piling	0.00 acres @	\$905.00 per acre =		\$0.00	
Pile-Burn	0.00 acres @	\$1,458.00 per acre =		\$0.00	
Endhaul	0.00 acres @	\$1,500.00 per acre =		\$0.00	
<b>TOTAL CLEARING AND GRUBBING</b>					<b>\$211.90</b>

**EXCAVATION -**

	3.7 sta. @	\$50.00 per sta. =		\$185.00	
	0 cys. @	\$0.00 per c.y. =		\$0.00	
	0 cys. @	\$0.00 per c.y. =		\$0.00	
	0 cys. @	\$0.00 per c.y. =		\$0.00	
<b>TOTAL EXCAVATION</b>					<b>\$185.00</b>

**CULVERTS - MATERIALS & INSTALLATION**

**Culverts**

30 LF of 18"	\$442.50	0 LF of 24"	\$0.00
44 LF of 30"	\$913.00	0 LF of 36"	\$0.00
0 LF of 42"	\$0.00	0 LF of 48"	\$0.00
0 LF of 54"	\$0.00	0 LF of 60"	\$0.00
	\$1,355.50		\$0.00

**Half Rounds**

0 LF of 21"	\$0.00	0 LF of 30"	\$0.00
0 LF of 36"	\$0.00	0 LF of 42"	\$0.00
0 LF of 48"	\$0.00	0 LF of 54"	\$0.00
0 LF of 60"	\$0.00	0 LF of 66"	\$0.00
	\$0.00		\$0.00

**Culvert Stakes & Markers**

0 stakes	\$0.00
2 markers	\$12.00
	\$12.00

**TOTAL CULVERTS \$1,367.50**

**SURFACING-**

Road	185 cy. of	pit run	@	\$10.41 per c.y.=	\$1,925.85
TA	11 cy. of	pit run	@	\$10.41 per c.y.=	\$114.51
				<b>TOTAL SURFACING</b>	<b>\$2,040.36</b>

**SPECIAL PROJECTS**

Remove Logs from fill @ Station 1+00 - 1 hour excavator	\$130.00	
Grade and shape road - 3.7 stations @ \$17.20/station	\$63.64	
Roll road - 3.7 stations @ \$11/station	\$40.70	
Seed, fertilize and mulch - acres .1 @ \$1180/acre	\$118.00	
<b>TOTAL SPECIAL PROJECTS</b>		<b>\$352.34</b>

**GRAND TOTAL \$4,157.10**

## SUMMARY OF CONSTRUCTION COST

Sale: County Line Return Road: Segment I To D

Construction - 3+00 stations  
0.06 miles

Improvement - 13+30 stations  
0.25 miles

### CLEARING AND GRUBBING -

Side cast	0.00 acres @	\$540.00 per acre =		\$0.00	
Scattering	1.10 acres @	\$815.00 per acre =		\$896.50	
Piling	0.00 acres @	\$905.00 per acre =		\$0.00	
Endhaul	0.00 acres @	\$1,500.00 per acre =		\$0.00	
		<b>TOTAL CLEARING AND GRUBBING</b>			<b>\$896.50</b>

### EXCAVATION -

	16.3 sta. @	\$65.00 per sta. =		\$1,059.50	
	900 cys. @	\$1.15 per c.y. =		\$1,035.00	
Compact waste	900 cys. @	\$0.31 per c.y. =		\$279.00	
	0 cys. @	\$0.00 per c.y. =		\$0.00	
		<b>TOTAL EXCAVATION</b>			<b>\$2,373.50</b>

### CULVERTS - MATERIALS & INSTALLATION

#### Culverts

32 LF of 18"	\$472.00		0 LF of 24"	\$0.00	
0 LF of 30"	\$0.00		0 LF of 36"	\$0.00	
0 LF of 42"	\$0.00		0 LF of 48"	\$0.00	
0 LF of 54"	\$0.00		0 LF of 60"	\$0.00	
	<u>\$472.00</u>			<u>\$0.00</u>	

#### Half Rounds

0 LF of 21"	\$0.00		0 LF of 30"	\$0.00	
0 LF of 36"	\$0.00		0 LF of 42"	\$0.00	
	<u>\$0.00</u>			<u>\$0.00</u>	

#### Culvert Stakes & Markers

0 stakes	\$0.00				
1 markers	\$6.00				
	<u>\$6.00</u>				

**TOTAL CULVERTS \$478.00**

### SURFACING-

882 cy. of Pit run	@	\$11.01 per c.y.=		\$9,710.82	
193 cy. of Crushed	@	\$15.36 per c.y.=		\$2,964.48	
		<b>TOTAL SURFACING</b>			<b>\$12,675.30</b>

### SPECIAL PROJECTS

<u>Grade and shape subgrade - .31 miles @ \$574/mile</u>		\$177.94
<u>Roll subgrade prior to rocking - 16.3 stations @ \$11/ station</u>		\$179.30
<u>Seed, fertilize and mulch - .75 acres @ \$1180/acre</u>		\$885.00

**TOTAL SPECIAL PROJECTS \$1,242.24**

**GRAND TOTAL \$17,665.54**

## SUMMARY OF CONSTRUCTION COST

Sale: County Line Return

Road: Segment F to F1 (Road Vacating)  
Stations: 15+50

### CLEARING AND GRUBBING -

Side cast	0.28 acres @	\$540.00 per acre =	\$151.20	
Scattering	0.00 acres @	\$815.00 per acre =	\$0.00	
Piling	0.00 acres @	\$905.00 per acre =	\$0.00	
Endhaul	0.00 acres @	\$1,500.00 per acre =	\$0.00	
		<b>TOTAL CLEARING AND GRUBBING</b>		<b>\$151.20</b>

### EXCAVATION -

Sidecast pullback & compact	610 cys. @	\$1.80 per c.y. =	\$1,098.00	
		<b>TOTAL EXCAVATION</b>		<b>\$1,098.00</b>

### SPECIAL PROJECTS

Fill removal @ stations 6+50 and 15+25 - 10 hours @ \$115/hr			\$1,150.00	
Seed, fertilize and mulch - .28 acres @ \$1180/acre			\$330.40	
		<b>TOTAL SPECIAL PROJECTS</b>		<b>\$1,480.40</b>

**GRAND TOTAL** **\$3,500.10**

## SUMMARY OF CONSTRUCTION COST

Sale: County Line Return Point: Point 'J' Stream Restoration

Construction - \_\_\_\_\_ stations Improvement - \_\_\_\_\_ stations  
 \_\_\_\_\_ miles \_\_\_\_\_ miles

**CLEARING AND GRUBBING -**

Side cast	0.00 acres @	\$540.00 per acre =	\$0.00	
Scattering	0.00 acres @	\$815.00 per acre =	\$0.00	
Piling	0.00 acres @	\$905.00 per acre =	\$0.00	
Endhaul	0.00 acres @	\$1,500.00 per acre =	\$0.00	
<b>TOTAL CLEARING AND GRUBBING</b>			<b>\$0.00</b>	

**EXCAVATION -**

Excavator	14 hrs. @	\$130.00 per hr. =	\$1,820.00	
D 8	6 hrs. @	\$130.00 per hr. =	\$780.00	
Truck	8 hrs. @	\$57.00 per hr. =	\$456.00	
	0 cys. @	\$0.00 per c.y. =	\$0.00	
<b>TOTAL EXCAVATION</b>			<b>\$3,056.00</b>	

**CULVERTS - MATERIALS & INSTALLATION**

**Culverts**

0 LF of 18" \$0.00	0 LF of 24" \$0.00
0 LF of 30" \$0.00	0 LF of 36" \$0.00
0 LF of 42" \$0.00	0 LF of 48" \$0.00
0 LF of 54" \$0.00	0 LF of 60" \$0.00
<u>\$0.00</u>	<u>\$0.00</u>

**Half Rounds**

0 LF of 21" \$0.00	0 LF of 30" \$0.00
0 LF of 36" \$0.00	0 LF of 42" \$0.00
<u>\$0.00</u>	<u>\$0.00</u>

**Culvert Stakes & Markers**

0 stakes \$0.00	
0 markers \$0.00	
<u>\$0.00</u>	

**TOTAL CULVERTS \$0.00**

**SURFACING-**

0 cy. of	@	\$0.00 per c.y.=	\$0.00	
0 cy. of	@	\$0.00 per c.y.=	\$0.00	
0 cy. of	@	\$0.00 per c.y.=	\$0.00	

**TOTAL SURFACING \$0.00**

**SPECIAL PROJECTS**

<u>Pump for water diversion</u>	<u>\$150.00</u>	
<u>Seed, fertilize and mulch - .3 acres @ \$1180/acre</u>	<u>\$354.00</u>	
<b>TOTAL SPECIAL PROJECTS</b>	<b>\$504.00</b>	

**GRAND TOTAL \$3,560.00**

## SUMMARY OF CONSTRUCTION COST

Sale: County Line Return Point: Point "K" - Stream Restoration and Road Vacatir

Construction - \_\_\_\_\_ stations  
 \_\_\_\_\_ miles Road Vacating: 21+00 stations  
 \_\_\_\_\_ miles 0.40 miles

**CLEARING AND GRUBBING -**

Side cast	0.00 acres @	\$540.00 per acre =	\$0.00	
Scattering	0.00 acres @	\$815.00 per acre =	\$0.00	
Piling	0.00 acres @	\$905.00 per acre =	\$0.00	
Endhaul	0.00 acres @	\$1,500.00 per acre =	\$0.00	
<b>TOTAL CLEARING AND GRUBBING</b>				<b>\$0.00</b>

**EXCAVATION -**

Excavator	16 hrs. @	\$130.00 per hr. =	\$2,080.00	
D 8	6 hrs. @	\$130.00 per hr. =	\$780.00	
Trucks	8 hrs. @	\$114.00 per hr. =	\$912.00	
	0 cys. @	\$0.00 per c.y. =	\$0.00	
<b>TOTAL EXCAVATION</b>				<b>\$3,772.00</b>

**CULVERTS - MATERIALS & INSTALLATION**

**Culverts**

0 LF of 18"	\$0.00	0 LF of 24"	\$0.00
0 LF of 30"	\$0.00	0 LF of 36"	\$0.00
0 LF of 42"	\$0.00	0 LF of 48"	\$0.00
0 LF of 54"	\$0.00	0 LF of 60"	\$0.00
	\$0.00		\$0.00

**Half Rounds**

0 LF of 21"	\$0.00	0 LF of 30"	\$0.00
0 LF of 36"	\$0.00	0 LF of 42"	\$0.00
	\$0.00		\$0.00

**Culvert Stakes & Markers**

0 stakes	\$0.00
0 markers	\$0.00
	\$0.00

**TOTAL CULVERTS \$0.00**

**SURFACING-**

0 cy. of	@	\$0.00 per c.y.=	\$0.00
0 cy. of	@	\$0.00 per c.y.=	\$0.00
0 cy. of	@	\$0.00 per c.y.=	\$0.00

**TOTAL SURFACING \$0.00**

**SPECIAL PROJECTS**

<u>Pump for water diversion</u>	<u>\$150.00</u>
<u>Seed, fertilize and mulch - .3 acres @ \$1180/acre</u>	<u>\$354.00</u>

**TOTAL SPECIAL PROJECTS \$504.00**

**GRAND TOTAL \$4,276.00**



## SUMMARY OF CONSTRUCTION COST

Sale: County Line Return Point: Point "L" Stream Restoration

Construction - \_\_\_\_\_ stations Improvement - \_\_\_\_\_ stations  
 \_\_\_\_\_ miles \_\_\_\_\_ miles

**CLEARING AND GRUBBING -**

Side cast	0.00 acres @	\$540.00 per acre =	\$0.00
Scattering	0.00 acres @	\$815.00 per acre =	\$0.00
Piling	0.00 acres @	\$905.00 per acre =	\$0.00
Endhaul	0.00 acres @	\$1,500.00 per acre =	\$0.00
<b>TOTAL CLEARING AND GRUBBING</b>			<b>\$0.00</b>

**EXCAVATION -**

Excavator	12 hrs. @	\$130.00 per hr. =	\$1,560.00
D 8	6 hrs. @	\$130.00 per hr. =	\$780.00
Trucks	9 hrs. @	\$114.00 per hr. =	\$1,026.00
	0 cys. @	\$0.00 per c.y. =	\$0.00
<b>TOTAL EXCAVATION</b>			<b>\$3,366.00</b>

**CULVERTS - MATERIALS & INSTALLATION**

**Culverts**

0 LF of 18"	\$0.00	0 LF of 24"	\$0.00
0 LF of 30"	\$0.00	0 LF of 36"	\$0.00
0 LF of 42"	\$0.00	0 LF of 48"	\$0.00
0 LF of 54"	\$0.00	0 LF of 60"	\$0.00
	<u>\$0.00</u>		<u>\$0.00</u>

**Half Rounds**

0 LF of 21"	\$0.00	0 LF of 30"	\$0.00
0 LF of 36"	\$0.00	0 LF of 42"	\$0.00
	<u>\$0.00</u>		<u>\$0.00</u>

**Culvert Stakes & Markers**

0 stakes	\$0.00
0 markers	\$0.00
	<u>\$0.00</u>

**TOTAL CULVERTS \$0.00**

**SURFACING-**

0 cy. of	@	\$0.00 per c.y.=	\$0.00
0 cy. of	@	\$0.00 per c.y.=	\$0.00
0 cy. of	@	\$0.00 per c.y.=	\$0.00

**TOTAL SURFACING \$0.00**

**SPECIAL PROJECTS**

<u>Pump for water diversion</u>	\$75.00
<u>Seed, fertilize and mulch - .3 acres @ \$1180/acre</u>	\$354.00

**TOTAL SPECIAL PROJECTS \$429.00**

**GRAND TOTAL \$3,795.00**



## CRUSHED ROCK COST SUMMARY

Pit: Mohler's County Pit  
 Sale: County Line Return

Location: 14-T3N-R10W, W.M.  
 Total Truck Loads: 3763 c.y.

2 1/2'-0" Base Cost= \$7.00 Per Cu.Yd.  
 \*1' - 0" Base Cost= \$8.50 Per Cu.Yd.

Road Seg.	Haul Cost /cu.yd.	Proc Cost /cu.yd.	Base Cst. /cu.yd.	Cost /cu.yd.	Number Cu. Yds	ROCK COST
A to B	\$6.24	\$1.25	\$7.00	\$14.49	2976	\$43,122.24
C to D	\$6.06	\$1.25	\$7.00	\$14.31	787	\$11,261.97
*1 to D	\$5.61	\$1.25	\$8.50	\$15.36	193	\$2,964.48
				Total C.Y.	3763	
					Sub Total	\$57,348.69

TOTAL ROCKING COSTS	\$57,348.69
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## PIT RUN ROCK COST

Pit: Mohler's County Pit  
 Sale: County Line Return

Location: 14-T3N-R10W, W.M.  
 Total Truck Loads: 1898 c.y.

Base Cost \$4.50 Per Cu.Yd.

Road Seg.	Haul Cost /cu.yd.	Proc Cost /cu.yd.	Base Cst. /cu.yd.	Cost /cu.yd.	Number Cu. Yds	ROCK COST
A to B	\$6.24	\$0.90	\$4.50	\$11.64	703	\$8,182.92
C to D	\$6.06	\$0.90	\$4.50	\$11.46	17	\$194.82
E to F	\$5.68	\$0.60	\$4.50	\$10.78	100	\$1,078.00
G to H	\$5.31	\$0.60	\$4.50	\$10.41	196	\$2,040.36
I to D	\$5.61	\$0.90	\$4.50	\$11.01	882	\$9,710.82
				Total C.Y.	1898	Sub Total \$21,206.92

TOTAL ROCKING COSTS	\$21,206.92
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## ROCK PIT DEVELOPMENT AND CRUSHING COST SUMMARY

Pit: <u>Rackheap Rockheap</u>	Location: <u>NW,SE Sec. 9 T3N, R9W W.M.</u>
Sale: <u>County Line Return</u>	Road: <u>70 c.y.</u>
Swell: <u>1.25</u>	Stockpile: <u>c.y.</u>
Shrinkage: <u>1.16</u>	Total Truck Loads: <u>70 c.y.</u>
Drill Pct.: <u>90%</u>	In Place Total: <span style="border: 1px solid black; padding: 2px;"><u>56 c.y.</u></span>

Develop (Dig)	<u>\$3.00</u>	/cu.yd.	x	<u>70</u>	cu.yds.	=	<u>\$210.00</u>
Load Dump Truck:	<u>\$1.40</u>	/cu.yd.	x	<u>70</u>	cu.yds.	=	<u>\$98.00</u>
						Subtotal	<u>\$308.00</u>

Move in excavator (within area)	<u>\$183.00</u>
Move in truck (within area)	<u>\$44.11</u>
	<u>\$227.11</u>

<b>TOTAL PRODUCTION COSTS</b>	<span style="border: 1px solid black; padding: 2px;"><b>\$535.11</b></span>
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Base Cost= \$7.64 Per Cu.Yd.

Road Segment	Haul Cost /cu.yd.	Placement cost/cu.yd.	Base Cost /cu.yd.	Cost /cu.yd.	Number Cu. Yds	ROCK COST
A to B	<u>\$4.16</u>	<u>\$1.40</u>	<u>\$7.64</u>	<u>\$13.20</u>	<u>70</u>	<u>\$924.31</u>
			Total C.Y.		70	Sub Total
						<u>\$924.31</u>

<b>TOTAL ROCKING COSTS</b>	<span style="border: 1px solid black; padding: 2px;"><b>\$924.31</b></span>
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## Oregon Department of Forestry

### Cruise Report County Line Return

1. **Type of Sale:** Partial Cut and Clearcut/ Recovery.
2. **Legal Description:** Portions of Sections 28, 32, and 33, Township 4 North, Range 9 West, W.M., Clatsop County, Oregon. Portions of Sections 5 and 8, Township 3 North, Range 9 West, and portions of Section 12, Township 3 North, Range 10 West, W.M. Tillamook County, Oregon.
3. **Sale Acreage:** The sale boundaries were plotted on a digital orthophotograph and the acreage was calculated with GIS.

ACRES				
Area	Sale	Total CC	Net (PC)	Net (CC)
1	46		39	
2	37		28	
3	66	58		51
4	76	57	12	52
5	46		41	
6	45	33	9	29
7	112	85	16	77
8	97	86		84
9	43		21	
<b>Total</b>	<b>568</b>	<b>319</b>	<b>166</b>	<b>293</b>

**Sale Acres:** Area within the Timber Sale Boundary signs.

**Total Acres:** For accomplishment reporting

**Clearcut harvest:** Sale acres; plus green tree retention acres outside the sale boundary; less roads and riparian areas classified as Special Stewardship in LMCS inside the sale boundary.

**Net Acres:** Used for calculating the advertised volume.

Sale acres less; roads, stream buffers inside the sale boundary and non required acres (Non-required only in partial cut areas).

**Clearcut:** Sale acres; less green tree retention, roads, and riparian areas classified as Special Stewardship in LMCS inside the sale boundary.

**Partial Cut:** Sale acres; less areas of low stocking, non-required areas, roads, and riparian areas classified as Special Stewardship in LMCS inside the sale boundary.

4. **Cruising Procedures:**

- A. **Cruising Method:** Variable radius full point plots spaced 200 feet apart were established in portions of the sale areas required to be

harvested. A total of 100 full point plots were taken. V-BAR (volume to basal area ratio) was calculated by measuring the first and second take tree or each species on each plot.

- B. **Plot Size:** A basal area factor of 20 was used. Point of observation was at 4.5 feet. Trees with diameters under 8 inches were not recorded.
  - C. **Grading System:** The segment grading system was used for all V-BAR conifer trees following the Columbia River Official Log Scaling and Grading Bureau rules.
  - D. **Defect and Breakage:** A 5% defect and breakage reduction has been applied to the volume.
  - E. **Cruiser Names/Dates:** Joe Travers, Barb Moore, Chris Woodward, Tod Haren, Dave Wells, March and May 2001.
5. **Computation Procedures:** Information from plots was entered into a spread sheet to develop a stand table for volume computation, basal area, trees per acre, average diameter of the trees to be removed and stand density estimates. V-BAR (Volume-Basal Area Ratio) for the take trees was computed using SuperAce 98 from Atterbury Consultant Inc. (Stand Table and Volume Computation Summary attached)
6. **Timber Description:** The sale contains nine areas, which were harvested in the 1950's, 1960's and 1970's. These areas were planted with Douglas-fir and portions of them have a component of naturally regenerated hemlock, cedar, and spruce. Red alder is present in the draws and along old skid roads. The Douglas-fir is severely infected with Swiss needle cast.
7. **Revenue Distribution:**  
100% FDF  
Tax Code:  
    10-04 Clatsop County 45%  
    56-1 Tillamook County 55%
- Deed Number: 35 and 51  
No Rehabilitation Obligation
8. **Attachments:**  
Stand Table  
Volume Summaries  
Logging Plan



"STEWARDSHIP IN FORESTRY"

## County Line Return

### Volume Summary

Area 1						
39 acres						
SPECIES	Basal Area Per Acre	V-BAR	Vol/Acre MBF	Volume MBF	D & B	Net Vol MBF
Douglas-fir	55	105	5.8	226	5%	215
Hemlock	20	150	3.0	117	5%	111
Spruce	16	85	1.4	55	5%	52
<b>TOTAL</b>				<b>398</b>		<b>378</b>

Area 2						
28 acres						
SPECIES	Basal Area Per Acre	V-BAR	Vol/Acre MBF	Volume MBF	D & B	Net Vol MBF
Douglas-fir	69	140	9.7	272	5%	258
Hemlock	27	160	4.3	120	5%	114
Spruce	2	85	0.2	6	5%	6
<b>TOTAL</b>				<b>398</b>		<b>378</b>

Area 3						
51 acres						
SPECIES	Basal Area Per Acre	V-BAR	Vol/Acre MBF	Volume MBF	D & B	Net Vol MBF
Douglas-fir	91	125	11.4	581	5%	552
<b>TOTAL</b>				<b>581</b>		<b>552</b>

Area 4						
64 acres						
SPECIES	Basal Area Per Acre	V-BAR	Vol/Acre MBF	Volume MBF	D & B	Net Vol MBF
Douglas-fir	142	65	9.2	589	5%	560
Hemlock	2	65	0.1	6	5%	6
<b>TOTAL</b>			<b>9.3</b>	<b>595</b>		<b>566</b>

Area 5						
41 acres						
SPECIES	Basal Area Per Acre	V-BAR	Vol/Acre MBF	Volume MBF	D & B	Net Vol MBF
Douglas-fir	112	65	7.3	299	5%	284
Hemlock	12	65	0.8	33	5%	31
<b>TOTAL</b>				<b>332</b>		<b>315</b>





"STEWARDSHIP IN FORESTRY"

## County Line Return

### Volume Summary

<b>Area 6</b>						
38 acres						
SPECIES	Basal Area Per Acre	V-BAR	Vol/Acre MBF	Volume MBF	D & B	Net Vol MBF
Douglas-fir	126	60	7.6	289	5%	275
<b>TOTAL</b>				289		275

<b>Area 7</b>						
93 acres						
SPECIES	Basal Area Per Acre	V-BAR	Vol/Acre MBF	Volume MBF	D & B	Net Vol MBF
Douglas-fir	122	60	7.3	679	5%	645
<b>TOTAL</b>				679		645

<b>Area 8</b>						
84 acres						
SPECIES	Basal Area Per Acre	V-BAR	Vol/Acre MBF	Volume MBF	D & B	Net Vol MBF
Douglas-fir	88	65	5.7	479	5%	455
<b>TOTAL</b>				479		455

<b>Area 9 - Riparian areas</b>						
21 acres						
SPECIES	Basal Area Per Acre	V-BAR	Vol/Acre MBF	Volume MBF	D & B	Net Vol MBF
Douglas-fir	117	65	7.6	160	5%	152
<b>TOTAL</b>				160		152

<b>TOTAL SALE VOLUME</b>			
459 acres			
SPECIES	MBF	Net Vol. (MBF)	Net. MBF/Ac.
Douglas-fir	3574	3396	7.4
Hemlock	276	262	0.6
Spruce	61	58	0.1
<b>TOTAL</b>	<b>3911</b>	<b>3716</b>	<b>8.1</b>

**County Line Return Area 1**

DBH	Total TK tr/acre	Total LV tr/acre	Doug-fir TK tr/acre	Doug-fir LV tr/acre	Hemlock TK tr/acre	Hemlock LV tr/acre	Sprce/Cdr TK tr/acre	Sprce/Cdr LV tr/acre	Red Alder TK tr/acre	Red Alder LV tr/acre
8"	3.6	0.0	3.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9"	8.5	5.7	5.7	0.0	0.0	0.0	2.8	0.0	0.0	5.7
10"	13.8	2.3	9.2	0.0	0.0	0.0	4.6	0.0	0.0	2.3
11"	20.9	3.8	5.7	0.0	9.5	1.9	5.7	1.9	0.0	0.0
12"	17.6	4.8	9.6	0.0	3.2	4.8	4.8	0.0	0.0	0.0
13"	6.8	9.5	2.7	0.0	0.0	8.1	4.1	1.4	0.0	0.0
14"	12.9	7.0	9.4	0.0	2.3	2.3	1.2	4.7	0.0	0.0
15"	5.1	7.2	4.1	0.0	1.0	4.1	0.0	3.1	0.0	0.0
16"	4.5	4.5	4.5	0.0	0.0	4.5	0.0	0.0	0.0	0.0
17"	4.8	6.4	3.2	0.0	1.6	4.8	0.0	0.8	0.0	0.8
18"	1.4	5.6	1.4	0.0	0.0	3.5	0.0	2.1	0.0	0.0
19"	1.3	2.5	1.3	0.0	0.0	1.9	0.0	0.6	0.0	0.0
20"	1.2	3.4	0.6	0.0	0.6	2.3	0.0	1.1	0.0	0.0
21"	1.0	2.6	0.0	0.0	1.0	1.0	0.0	1.6	0.0	0.0
22"	0.5	4.3	0.0	0.0	0.5	3.8	0.0	0.5	0.0	0.0
24"	0.0	3.6	0.0	0.4	0.0	2.4	0.0	0.8	0.0	0.0
26"	0.0	1.4	0.0	0.0	0.0	1.4	0.0	0.0	0.0	0.0
28"	0.0	0.3	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0
30"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
32"	0.0	0.4	0.0	0.0	0.0	0.2	0.0	0.2	0.0	0.0
34"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
36"	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0
38"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
42"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
44"	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0

**Trees/acre**

	All Spec	Doug-fir	Hemlock	Sprce/Cdr	Red Alder
Current	179	61	67	42	9
Residual	75	0	47	19	9
Take	104	61	20	23	0

**Basal Area/acre**

	All Spec	Doug-fir	Hemlock	Sprce/Cdr	Red Alder
Current	205	56	96	48	5
Residual	114	1	76	32	5
Take	91	55	20	16	0

**Quadratic Mean Diameter**

	All Spec	Doug-fir	Hemlock	Sprce/Cdr	Red Alder
Current	14.5	13.0	16.2	14.5	10.1
Residual	16.7	0.0	17.2	17.6	10.1
Take	12.7	12.9	13.5	11.3	0.0

**Stand Density Index (%)**

	Doug-fir	Hemlock	Sprce/Cdr
Current	54	41	46
Residual	28	21	24

**County Line Return Area 2**

DBH	Total TK tr/acre	Total LV tr/acre	Doug-fir TK tr/acre	Doug-fir LV tr/acre	Hemlock TK tr/acre	Hemlock LV tr/acre	Sprce/Cdr TK tr/acre	Sprce/Cdr LV tr/acre	Red Alder TK tr/acre	Red Alder LV tr/acre
8"	23.9	28.7	19.1	0.0	4.8	4.8	0.0	23.9	0.0	0.0
9"	45.3	11.3	34.0	0.0	11.3	3.8	0.0	7.5	0.0	0.0
10"	30.6	9.2	18.3	0.0	9.2	9.2	3.1	0.0	0.0	0.0
11"	5.1	15.1	5.1	0.0	0.0	10.1	0.0	2.5	0.0	2.5
12"	14.8	6.4	12.7	0.0	2.1	6.4	0.0	0.0	0.0	0.0
13"	12.7	10.8	10.9	0.0	1.8	5.4	0.0	5.4	0.0	0.0
14"	6.3	9.4	4.7	0.0	1.6	7.8	0.0	1.6	0.0	0.0
15"	2.7	6.8	2.7	0.0	0.0	6.8	0.0	0.0	0.0	0.0
16"	4.8	1.2	1.2	0.0	3.6	1.2	0.0	0.0	0.0	0.0
17"	2.2	1.1	0.0	0.0	1.1	1.1	1.1	0.0	0.0	0.0
18"	1.8	3.7	0.9	0.0	0.9	1.9	0.0	0.9	0.0	0.9
19"	0.8	3.4	0.0	0.0	0.8	3.4	0.0	0.0	0.0	0.0
20"	0.0	1.5	0.0	0.0	0.0	1.5	0.0	0.0	0.0	0.0
21"	0.7	2.8	0.7	0.0	0.0	2.1	0.0	0.7	0.0	0.0
22"	0.0	0.6	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0
24"	0.0	1.6	0.0	0.5	0.0	1.1	0.0	0.0	0.0	0.0
26"	0.0	1.0	0.0	0.5	0.0	0.5	0.0	0.0	0.0	0.0
28"	0.0	0.4	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0
30"	0.0	0.3	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0
32"	0.0	0.3	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0
34"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
36"	0.0	0.2	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0
38"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
42"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
44"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

**Trees/acre**

	All Spec	Doug-fir	Hemlock	Sprce/Cdr	Red Alder
Current	268	112	106	47	3
Residual	116	1	69	43	3
Take	151	110	37	4	0

**Basal Area/acre**

	All Spec	Doug-fir	Hemlock	Sprce/Cdr	Red Alder
Current	205	74	102	26	3
Residual	107	5	75	24	3
Take	98	69	27	2	0

**Quadratic Mean Diameter**

	All Spec	Doug-fir	Hemlock	Sprce/Cdr	Red Alder
Current	11.8	11.0	13.3	10.1	13.5
Residual	13.0	30.3	14.1	10.1	13.5
Take	10.9	10.7	11.6	9.6	0.0

**Stand Density Index (%)**

	Doug-fir	Hemlock	Sprce/Cdr
Current	58	44	50
Residual	29	22	25

County Line Return Area 3

DBH	Total TK tr/acre	Total LV tr/acre	Doug-fir TK tr/acre	Doug-fir LV tr/acre	Hemlock TK tr/acre	Hemlock LV tr/acre	Sprce/Cdr TK tr/acre	Sprce/Cdr LV tr/acre	Red Alder TK tr/acre	Red Alder LV tr/acre
8"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9"	6.5	3.2	6.5	0.0	0.0	0.0	0.0	3.2	0.0	0.0
10"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11"	6.5	2.2	6.5	0.0	0.0	0.0	0.0	2.2	0.0	0.0
12"	7.3	3.6	7.3	0.0	0.0	1.8	0.0	0.0	0.0	1.8
13"	9.3	7.7	9.3	0.0	0.0	4.6	0.0	3.1	0.0	0.0
14"	14.7	8.0	14.7	0.0	0.0	2.7	0.0	4.0	0.0	1.3
15"	10.5	3.5	10.5	0.0	0.0	2.3	0.0	0.0	0.0	1.2
16"	10.2	1.0	10.2	0.0	0.0	1.0	0.0	0.0	0.0	0.0
17"	5.4	1.8	5.4	0.0	0.0	0.9	0.0	0.9	0.0	0.0
18"	4.9	0.8	4.9	0.0	0.0	0.0	0.0	0.8	0.0	0.0
19"	1.5	1.4	1.5	0.0	0.0	0.7	0.0	0.7	0.0	0.0
20"	2.6	1.4	2.6	0.0	0.0	0.7	0.0	0.7	0.0	0.0
21"	0.0	1.2	0.0	0.0	0.0	0.6	0.0	0.6	0.0	0.0
22"	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0
24"	0.0	0.5	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0
26"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
28"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
32"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
34"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
36"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
38"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
42"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
44"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Trees/acre

	All Spec	Doug-fir	Hemlock	Sprce/Cdr	Red Alder
Current	116	80	15	17	4
Residual	37	1	15	17	4
Take	79	79	0	0	0

Basal Area/acre

	All Spec	Doug-fir	Hemlock	Sprce/Cdr	Red Alder
Current	133	92	19	18	4
Residual	42	1	19	18	4
Take	91	91	0	0	0

Quadratic Mean Diameter

	All Spec	Doug-fir	Hemlock	Sprce/Cdr	Red Alder
Current	14.5	14.5	15.2	13.9	13.5
Residual	14.4	13.5	15.2	13.9	13.5
Take	14.5	14.5	0.0	0.0	0.0

Stand Density Index (%)

	Doug-fir	Hemlock	Sprce/Cdr
Current	35	26	30
Residual	11	8	9

County Line Return Area 4

DBH	Total TK tr/acre	Total LV tr/acre	Doug-fir TK tr/acre	Doug-fir LV tr/acre	Hemlock TK tr/acre	Hemlock LV tr/acre	Sprce/Cdr TK tr/acre	Sprce/Cdr LV tr/acre	Red Alder TK tr/acre	Red Alder LV tr/acre
8"	14.3	3.6	14.3	0.0	0.0	3.6	0.0	0.0	0.0	0.0
9"	22.6	0.0	22.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10"	29.8	11.5	29.8	0.0	0.0	4.6	0.0	0.0	0.0	6.9
11"	43.6	7.6	43.6	0.0	0.0	5.7	0.0	0.0	0.0	1.9
12"	33.4	3.2	31.8	0.0	1.6	1.6	0.0	0.0	0.0	1.6
13"	17.6	1.4	17.6	0.0	0.0	0.0	0.0	1.4	0.0	0.0
14"	14.0	4.6	14.0	0.0	0.0	2.3	0.0	2.3	0.0	0.0
15"	7.1	0.0	7.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
16"	6.3	0.9	6.3	0.0	0.0	0.9	0.0	0.0	0.0	0.0
17"	3.2	2.4	3.2	0.0	0.0	0.8	0.0	1.6	0.0	0.0
18"	2.1	0.7	2.1	0.0	0.0	0.7	0.0	0.0	0.0	0.0
19"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
24"	0.0	0.4	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0
26"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
28"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
32"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
34"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
36"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
38"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
42"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
44"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Trees/acre

	All Spec	Doug-fir	Hemlock	Sprce/Cdr	Red Alder
Current	229	192	22	5	10
Residual	36	0	21	5	10
Take	194	192	2	0	0

Basal Area/acre

	All Spec	Doug-fir	Hemlock	Sprce/Cdr	Red Alder
Current	172	142	18	6	6
Residual	28	0	16	6	6
Take	144	142	2	0	0

Quadratic Mean Diameter

	All Spec	Doug-fir	Hemlock	Sprce/Cdr	Red Alder
Current	11.7	11.6	12.2	14.8	10.5
Residual	11.9	0.0	11.8	14.8	10.5
Take	11.7	11.6	13.5	0.0	0.0

Stand Density Index (%)

	Doug-fir	Hemlock	Sprce/Cdr
Current	49	37	42
Residual	8	6	7

**County Line Return Area 5**

DBH	Total TK tr/acre	Total LV tr/acre	Doug-fir TK tr/acre	Doug-fir LV tr/acre	Hemlock TK tr/acre	Hemlock LV tr/acre	Sprce/Cdr TK tr/acre	Sprce/Cdr LV tr/acre	Red Alder TK tr/acre	Red Alder LV tr/acre
8"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9"	18.2	0.0	9.1	0.0	9.1	0.0	0.0	0.0	0.0	0.0
10"	51.3	0.0	44.0	0.0	7.3	0.0	0.0	0.0	0.0	0.0
11"	24.2	0.0	24.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12"	15.3	10.2	15.3	0.0	0.0	10.2	0.0	0.0	0.0	0.0
13"	17.3	0.0	13.0	0.0	4.3	0.0	0.0	0.0	0.0	0.0
14"	11.2	7.5	11.2	0.0	0.0	7.5	0.0	0.0	0.0	0.0
15"	13.0	13.0	13.0	0.0	0.0	13.0	0.0	0.0	0.0	0.0
16"	2.9	2.9	2.9	0.0	0.0	2.9	0.0	0.0	0.0	0.0
17"	2.5	2.5	2.5	0.0	0.0	2.5	0.0	0.0	0.0	0.0
18"	2.3	6.8	2.3	0.0	0.0	6.8	0.0	0.0	0.0	0.0
19"	2.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
20"	0.0	1.8	0.0	0.0	0.0	1.8	0.0	0.0	0.0	0.0
21"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
24"	0.0	1.3	0.0	0.0	0.0	0.0	0.0	1.3	0.0	0.0
26"	0.0	1.1	0.0	0.0	0.0	0.0	0.0	1.1	0.0	0.0
28"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
32"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
34"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
36"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
38"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
42"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
44"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

**Trees/acre**

	All Spec	Doug-fir	Hemlock	Sprce/Cdr	Red Alder
Current	209	140	67	2	0
Residual	49	0	47	2	0
Take	161	140	21	0	0

**Basal Area/acre**

	All Spec	Doug-fir	Hemlock	Sprce/Cdr	Red Alder
Current	192	112	72	8	0
Residual	68	0	60	8	0
Take	124	112	12	0	0

**Quadratic Mean Diameter**

	All Spec	Doug-fir	Hemlock	Sprce/Cdr	Red Alder
Current	13.0	12.1	14.0	27.1	0.0
Residual	16.0	0.0	15.3	27.1	0.0
Take	11.9	12.1	10.2	0.0	0.0

**Stand Density Index (%)**

	Doug-fir	Hemlock	Sprce/Cdr
Current	53	40	45
Residual	17	13	15

County Line Return Area 6

DBH	Total TK tr/acre	Total LV tr/acre	Doug-fir TK tr/acre	Doug-fir LV tr/acre	Hemlock TK tr/acre	Hemlock LV tr/acre	Sprce/Cdr TK tr/acre	Sprce/Cdr LV tr/acre	Red Alder TK tr/acre	Red Alder LV tr/acre
8"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9"	15.1	7.5	15.1	0.0	0.0	7.5	0.0	0.0	0.0	0.0
10"	6.1	0.0	6.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11"	20.2	0.0	20.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12"	4.2	4.2	4.2	0.0	0.0	4.2	0.0	0.0	0.0	0.0
13"	7.2	0.0	7.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14"	24.9	6.2	24.9	0.0	0.0	6.2	0.0	0.0	0.0	0.0
15"	16.3	0.0	16.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
16"	14.3	0.0	14.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17"	8.5	4.2	8.5	0.0	0.0	4.2	0.0	0.0	0.0	0.0
18"	1.9	0.0	1.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
19"	3.4	3.4	3.4	0.0	0.0	3.4	0.0	0.0	0.0	0.0
20"	1.5	0.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
24"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
26"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
28"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
32"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
34"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
36"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
38"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
42"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
44"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

**Trees/acre**

	All Spec	Doug-fir	Hemlock	Sprce/Cdr	Red Alder
Current	150	124	26	0	0
Residual	26	0	26	0	0
Take	124	124	0	0	0

**Basal Area/acre**

	All Spec	Doug-fir	Hemlock	Sprce/Cdr	Red Alder
Current	153	126	27	0	0
Residual	27	0	27	0	0
Take	126	126	0	0	0

**Quadratic Mean Diameter**

	All Spec	Doug-fir	Hemlock	Sprce/Cdr	Red Alder
Current	13.7	13.7	13.8	0.0	0.0
Residual	13.8	0.0	13.8	0.0	0.0
Take	13.7	13.7	0.0	0.0	0.0

**Stand Density Index (%)**

	Doug-fir	Hemlock	Sprce/Cdr
Current	41	31	35
Residual	7	5	6

**County Line Return Area 7**

DBH	Total TK tr/acre	Total LV tr/acre	Doug-fir TK tr/acre	Doug-fir LV tr/acre	Hemlock TK tr/acre	Hemlock LV tr/acre	Sprce/Cdr TK tr/acre	Sprce/Cdr LV tr/acre	Red Alder TK tr/acre	Red Alder LV tr/acre
8"	7.6	3.8	7.6	0.0	0.0	3.8	0.0	0.0	0.0	0.0
9"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10"	4.9	0.0	4.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11"	26.3	0.0	26.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12"	17.0	5.1	17.0	0.0	0.0	3.4	0.0	0.0	0.0	1.7
13"	21.7	2.9	21.7	0.0	0.0	2.9	0.0	0.0	0.0	0.0
14"	16.2	2.5	16.2	0.0	0.0	2.5	0.0	0.0	0.0	0.0
15"	15.2	1.1	15.2	0.0	0.0	1.1	0.0	0.0	0.0	0.0
16"	9.5	1.0	9.5	0.0	0.0	0.0	0.0	1.0	0.0	0.0
17"	7.6	0.8	7.6	0.0	0.0	0.8	0.0	0.0	0.0	0.0
18"	2.3	0.0	2.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
19"	0.7	0.7	0.7	0.0	0.0	0.7	0.0	0.0	0.0	0.0
20"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22"	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0
24"	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0
26"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
28"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30"	0.0	0.3	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0
32"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
34"	0.0	0.2	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0
36"	0.0	0.2	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0
38"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
42"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
44"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

**Trees/acre**

	All Spec	Doug-fir	Hemlock	Sprce/Cdr	Red Alder
Current	149	129	16	2	2
Residual	20	0	16	2	2
Take	129	129	0	0	0

**Basal Area/acre**

	All Spec	Doug-fir	Hemlock	Sprce/Cdr	Red Alder
Current	146	122	17	6	1
Residual	24	0	17	6	1
Take	122	122	0	0	0

**Quadratic Mean Diameter**

	All Spec	Doug-fir	Hemlock	Sprce/Cdr	Red Alder
Current	13.4	13.2	14.0	23.5	9.6
Residual	14.8	0.0	14.0	23.5	9.6
Take	13.2	13.2	0.0	0.0	0.0

**Stand Density Index (%)**

	Doug-fir	Hemlock	Sprce/Cdr
Current	40	30	34
Residual	6	5	5



**County Line Return Area 8**

DBH	Total TK tr/acre	Total LV tr/acre	Doug-fir TK tr/acre	Doug-fir LV tr/acre	Hemlock TK tr/acre	Hemlock LV tr/acre	Sprce/Cdr TK tr/acre	Sprce/Cdr LV tr/acre	Red Alder TK tr/acre	Red Alder LV tr/acre
8"	3.6	3.6	3.6	0.0	0.0	3.6	0.0	0.0	0.0	0.0
9"	8.5	5.7	8.5	0.0	0.0	5.7	0.0	0.0	0.0	0.0
10"	16.0	2.3	16.0	0.0	0.0	2.3	0.0	0.0	0.0	0.0
11"	9.5	1.9	9.5	0.0	0.0	1.9	0.0	0.0	0.0	0.0
12"	19.1	1.6	19.1	0.0	0.0	1.6	0.0	0.0	0.0	0.0
13"	23.1	0.0	23.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14"	11.7	0.0	11.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15"	7.1	1.0	7.1	0.0	0.0	1.0	0.0	0.0	0.0	0.0
16"	3.6	0.9	3.6	0.0	0.0	0.9	0.0	0.0	0.0	0.0
17"	3.2	0.0	3.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
19"	0.6	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
24"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
26"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
28"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
32"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
34"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
36"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
38"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
42"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
44"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

**Trees/acre**

	All Spec	Doug-fir	Hemlock	Sprce/Cdr	Red Alder
Current	123	106	17	0	0
Residual	17	0	17	0	0
Take	106	106	0	0	0

**Basal Area/acre**

	All Spec	Doug-fir	Hemlock	Sprce/Cdr	Red Alder
Current	98	88	10	0	0
Residual	10	0	10	0	0
Take	88	88	0	0	0

**Quadratic Mean Diameter**

	All Spec	Doug-fir	Hemlock	Sprce/Cdr	Red Alder
Current	12.1	12.3	10.4	0.0	0.0
Residual	10.4	0.0	10.4	0.0	0.0
Take	12.3	12.3	0.0	0.0	0.0

**Stand Density Index (%)**

	Doug-fir	Hemlock	Sprce/Cdr
Current	28	21	24
Residual	3	2	3

**County Line Return Area 9**

Managed Riparian area in Areas 4, 5, 6, and 7

DBH	Total TK tr/acre	Total LV tr/acre	Doug-fir TK tr/acre	Doug-fir LV tr/acre	Hemlock TK tr/acre	Hemlock LV tr/acre	Sprce/Cdr TK tr/acre	Sprce/Cdr LV tr/acre	Red Alder TK tr/acre	Red Alder LV tr/acre
8"	9.6	0.0	9.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9"	30.2	0.0	30.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10"	24.4	6.1	24.4	0.0	0.0	0.0	0.0	0.0	0.0	6.1
11"	60.6	5.1	60.6	0.0	0.0	5.1	0.0	0.0	0.0	0.0
12"	29.7	8.4	29.7	4.2	0.0	4.2	0.0	0.0	0.0	0.0
13"	14.5	0.0	14.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14"	9.4	21.9	9.4	12.5	0.0	9.4	0.0	0.0	0.0	0.0
15"	0.0	8.2	0.0	8.2	0.0	0.0	0.0	0.0	0.0	0.0
16"	0.0	7.2	0.0	7.2	0.0	0.0	0.0	0.0	0.0	0.0
17"	0.0	2.1	0.0	2.1	0.0	0.0	0.0	0.0	0.0	0.0
18"	0.0	1.9	0.0	1.9	0.0	0.0	0.0	0.0	0.0	0.0
19"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
24"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
26"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
28"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
32"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
34"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
36"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
38"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
42"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
44"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

**Trees/acre**

	All Spec	Doug-fir	Hemlock	Sprce/Cdr	Red Alder
Current	240	215	19	0	6
Residual	61	36	19	0	6
Take	178	178	0	0	0

**Basal Area/acre**

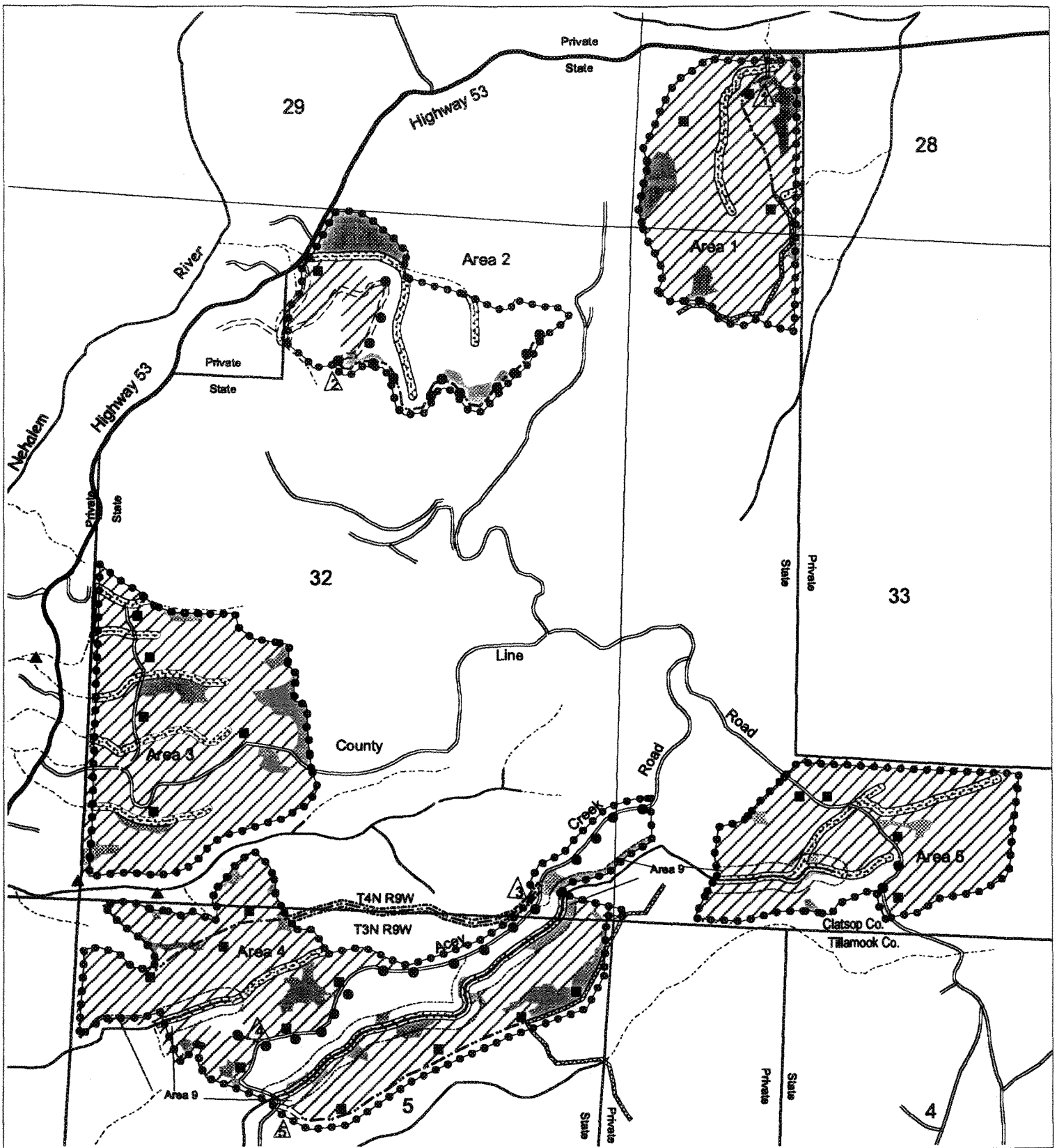
	All Spec	Doug-fir	Hemlock	Sprce/Cdr	Red Alder
Current	180	160	17	0	3
Residual	63	43	17	0	3
Take	117	117	0	0	0

**Quadratic Mean Diameter**

	All Spec	Doug-fir	Hemlock	Sprce/Cdr	Red Alder
Current	11.7	11.7	12.8	0.0	9.6
Residual	13.8	14.8	12.8	0.0	9.6
Take	11.0	11.0	0.0	0.0	0.0

**Stand Density Index (%)**

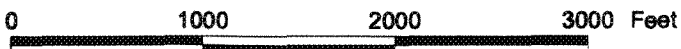
	Doug-fir	Hemlock	Sprce/Cdr
Current	51	39	44
Residual	17	13	15

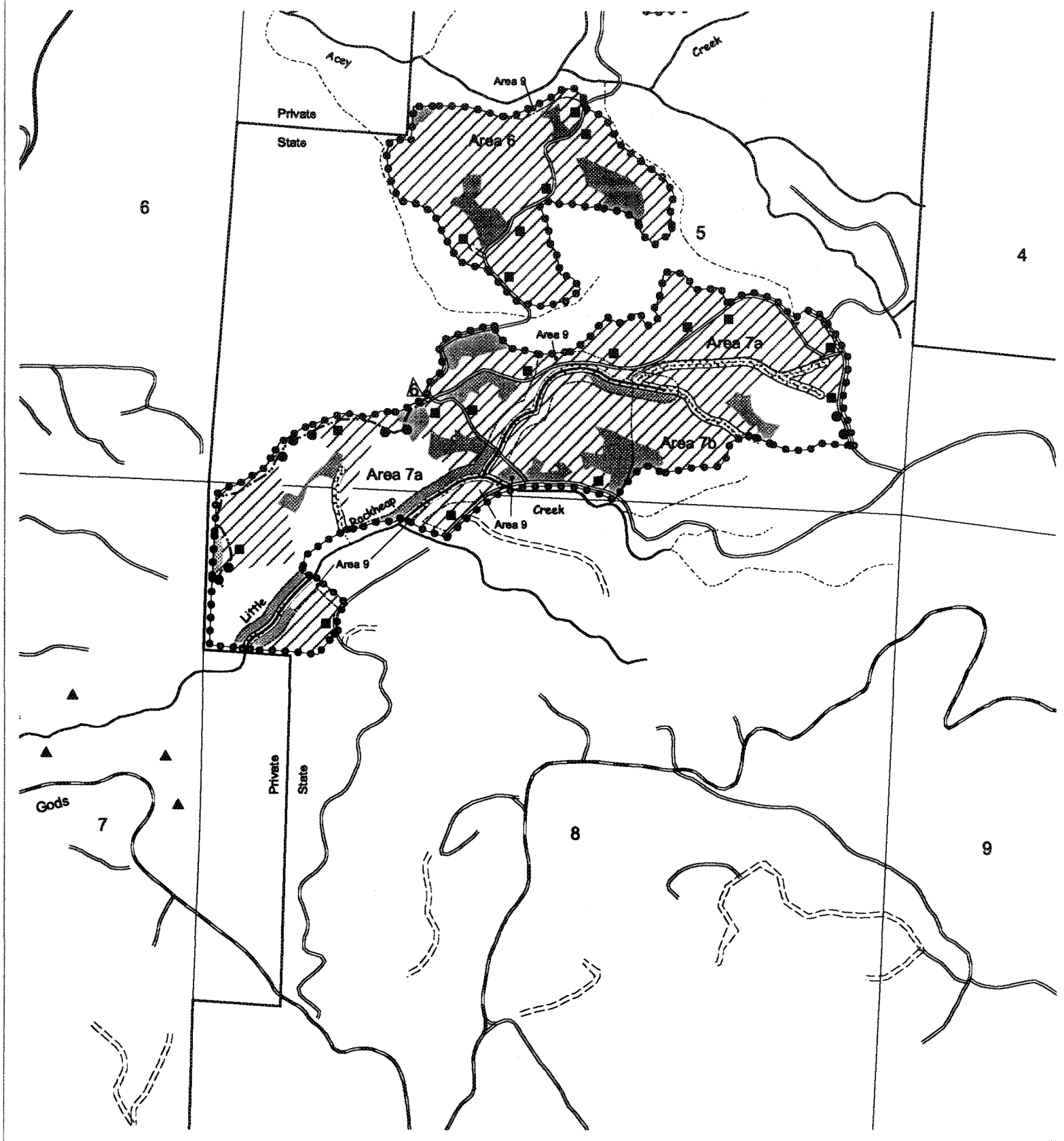


**County Line Return Logging Plan - Areas 1, 2, 3, 4, 5, and 9**

Secs. 28, 32, and 33, T4N, R9W, WM, Clatsop County, and  
 Secs. 5 & 8, T3N, R9W, and Sec. 12, T3N, R10W, WM, Tillamook County

- |                       |                       |                      |
|-----------------------|-----------------------|----------------------|
| Non-Project Road      | Abandoned Road        | Type F Stream        |
| Timber Sale Boundary  | Unsurfaced Road       | Type N Stream        |
| Area Boundary         | Surfaced Road         | Non-required Harvest |
| Right-of-Way Boundary | County Road           | Stream Buffer Zones  |
| Ground Yarding        | State Road or Highway |                      |
| Cable Landing         |                       |                      |
| Domestic Water Intake |                       |                      |



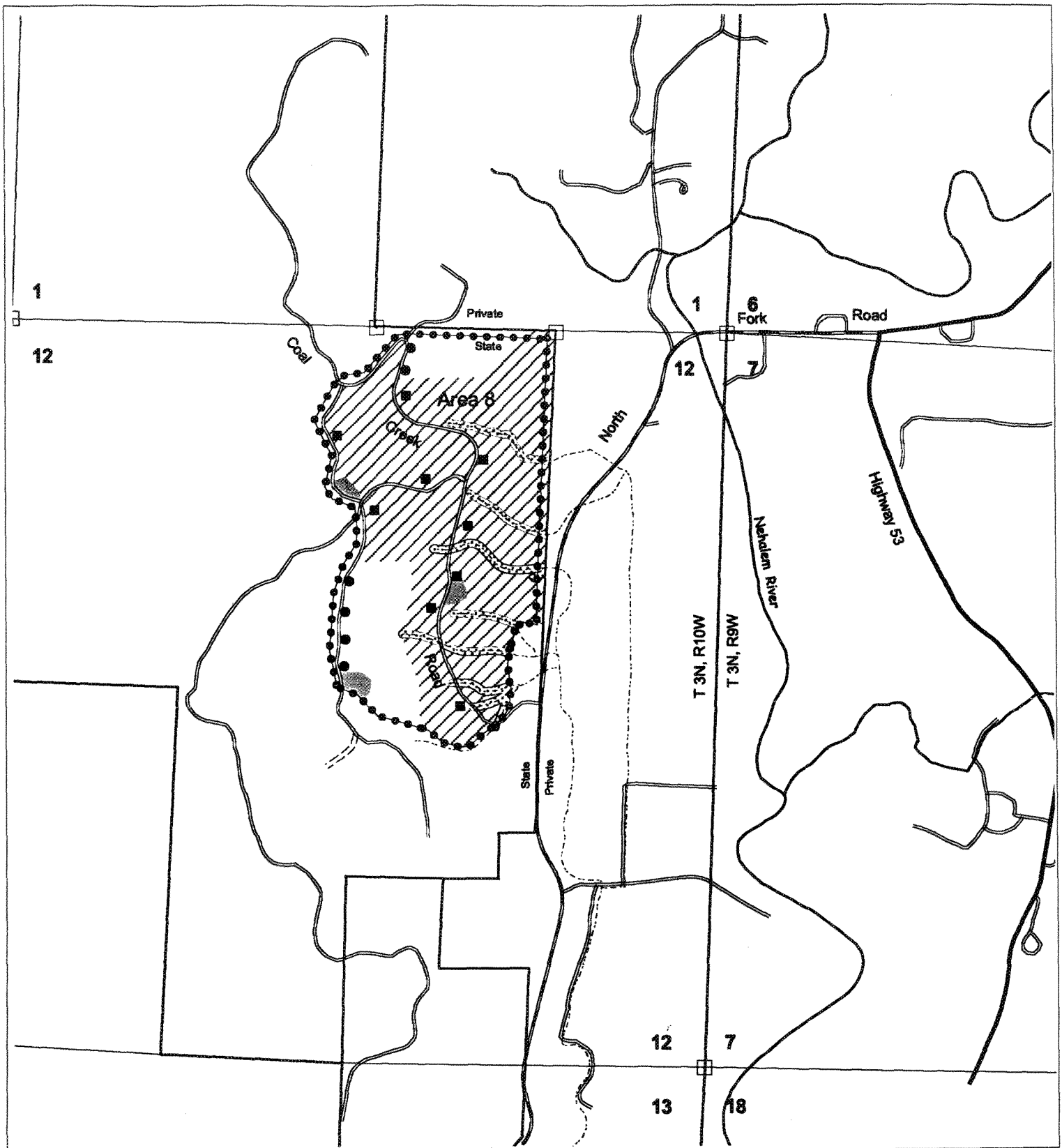


**County Line Return Logging Plan -Areas 6, 7, and 9**

Secs. 28, 32 & 33, T4N, R9W, WM, Clatsop County, and  
 Secs 5 & 8, T3N, R9W, and Sec 12, T3N, R10W, WM, Tillamook County

- |                       |                       |                      |
|-----------------------|-----------------------|----------------------|
| Non-Project Road      | Abandoned Road        | Type F Stream        |
| Timber Sale Boundary  | Unsurfaced Road       | Type N Stream        |
| Area Boundary         | Surfaced Road         | Non-required Harvest |
| Right-of-way Boundary | County Road           | Stream Buffer Zones  |
| Ground Yarding        | State Road or Highway |                      |
| Cable Landing         |                       |                      |
| Domestic Water intake |                       |                      |





**County Line Return Logging Plan - Area 8**

Secs. 28, 32, and 33, T4N, R9W, WM, Clatsop County, and  
 Secs. 5 & 8, T3N, R9W, and Sec. 12, T3N, R10W, WM, Tillamook County

- Non-Project Road
- Timber Sale Boundary
- Area Boundary
- R/W Boundary
- ODF Ownership Boundary
- Ground Yarding
- Cable Landing

- Abandoned Road
- Unsurfaced Road
- Surfaced Road
- County Road
- State Road or Highway

- Type F Stream
- Type N Stream
- Non-required Harvest
- Stream Buffer Zones





## Oregon Department of Forestry

### WRITTEN PLAN

"STEWARDSHIP IN FORESTRY"

**SALE NAME:** County Line Return

**PROTECTED WATERS:** Acey Creek and Little Rackheap Creek, medium Type F streams and unnamed tributaries of Acey Creek, Little Rackheap Creek, and North Fork Nehalem River, all small Type F and D streams;

**Definitions:** Stream buffer: 25 feet horizontal distance from the stream bank of Type F, Type D streams and perennial Type N streams. Riparian Management Areas (RMA): The area between the stream buffer and 100 feet horizontal distance from the high water mark of Type F streams.

**LOCATION:** Portions of Sections 32 and 33, T4N, R9W, W.M., Clatsop County, and portions of Sections 5 and 8, T3N, R9W, W.M., Tillamook County, Oregon.

**Activity:** Felling and Yarding (Tractor and Cable)

**Protection measures:**

- Trees within the stream buffer are reserved from cutting, except as approved by ODF to facilitate logging operations. Trees felled within this zone will be incidental and will be left for down wood.
- Felling of trees into the stream buffer will be avoided and incidental.
- Trees that enter Type F streams will be left for down wood.
- Approximately 60 square feet of basal area will be retained with the RMA on Type F streams.
- Ground yarding equipment will not be allowed within 50 feet of streams, except at stream crossing locations on roads and skid trails approved in the Operations Plan.
- Skid trails will be water barred as needed and closed upon completion of operations.
- Cable yarding lines strung across RMA's will average at least 150 feet apart and be pulled out prior to rigging the next yarding road.
- Logs will have at least one end suspended when yarded.
- Logs will be fully suspended when yarding across Type F and D streams.
- Soil gouging will be incidental and limited to a depth of 1 vertical foot.
- Active landslides and slumps discovered within the harvest areas will be reviewed by ODF to determine protective measures for these areas, including removal of the site(s) if necessary to protect water resources.

**Activity:** Five existing culverts along Rackheap Grade and Acey Creek Road are in deteriorating condition and need replacement. Due to limited use and road relocation, the fill and culverts at Points J, K, L, M, and at Station 114+90 of A to B are to be removed and not replaced. Removal of fill and culverts at Points J, K, L, and M will provide passage for fish. Other road improvement activities will include right-of-way log removal, road rocking and rip-rap placement. Further detailed work specifications for these projects are included as portions of Project Nos. 1, 2, 3, and 4 of the County Line Return Sale as shown and described in Exhibits A, B, C, E, G, H, and I.

**Protection Measures:**

- In stream activity will be limited to the period between July 1 and September 15 without prior approval from ODFW.
- Work will be performed during dry weather and periods of low stream flows.
- Operations will cease when rain or periods of high stream flows result in a visual increase in

turbidity.

- Machine activity in streams will be kept to a minimum and water will be diverted around work areas as necessary.
- Disturbance of existing vegetation will be kept to a minimum.
- Fill sloped will be constructed at a 1½ : 1 fill width to height ratio.
- Culvert and fill removal shall include establishing the original stream channel width, grade and orientation, and excavating stream channel banks to 1½ : 1 side slopes.
- Waste material will be end-hauled to stable locations marked on Exhibit "A" and in the field.
- Fill material will be placed and compacted in 8-inch lifts.
- All disturbed areas will be mulched and seeded to minimize erosion.

**Date:** March 21, 2002

**Prepared by:** Barbara Moore, Forester  
Gary Baker, Road Specialist