



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal Cost Summary Joe Knife Sale 341-07-48

District: Coos

Date: 12/28/06

	Conifer	Hardwood	Total
Gross Timber Sale Value	\$1,120,313.23	\$46,785.60	\$1,167,098.83
		Project Work	(\$64,164.00)
		Advertised Value	\$1,102,934.83



Timber Sale Appraisal Timber Description Joe Knife Sale 341-07-48

"STEWARDSHIP IN FORESTRY"

District: Coos

Location: Portions of Sections 1, 10, & 12, T23S, R11W, W.M., Coos County, Oregon.

Date: 12/28/06

Stand Stocking: 60%

Species	Avg. DBH	Amortized%	Recovery%
Douglas - Fir	27	0	95
Western Hemlock / Fir	17	0	90
Alder (Red)	14	0	100

Volume by Grade	Douglas - Fir	Western Hemlock / Fir	Alder (Red)	Total
3P	242	0	0	242
SM	436	0	0	436
2S	1,435	5	0	1,440
3S	122	6	0	128
3S 10" - 11"	612	16	0	628
4S	0	2	0	2
7"	0	0	8	8
8" - 9"	0	0	61	61
10" - 11"	0	0	34	34
12"+	0	0	32	32
Total	2,847	29	135	3,011

Comments: Pond Values Used: 4th Quarter Calendar Year 2006.

Western Red Cedar Stumpage Price = Pond Value minus Logging Cost
 $\$640/\text{MBF} = \$825/\text{MBF} - \$185/\text{MBF}$

Hauling costs adjusted to make equivalent to \$700 daily truck cost.

Hauling Cost Calculation Douglas-fir:

$\$700 - \% \text{ Profit \& Risk } (\$700 / 1.20) = \$583 \text{ Daily Truck Cost.}$

$\$583 \text{ Daily Truck Cost} / (2 \text{ trips per day} \times 4.5 \text{ MBF per load}) = \$64.78/\text{MBF Hauling Cost.}$

Hauling Cost Calculation Western Hemlock:

$\$700 - \% \text{ Profit \& Risk } (\$700 / 1.20) = \$583 \text{ Daily Truck Cost.}$

$\$583 \text{ Daily Truck Cost} / (2 \text{ trips per day} \times 4.5 \text{ MBF per load}) = \$64.78/\text{MBF Hauling Cost.}$

Hauling Cost Calculation Red Alder:

$\$700 - \% \text{ Profit \& Risk } (\$700 / 1.20) = \$583 \text{ Daily Truck Cost.}$

$\$583 \text{ Daily Truck Cost} / (2 \text{ trips per day} \times 3.5 \text{ MBF per load}) = \$83.29/\text{MBF Hauling Cost.}$

TOTAL Other Costs (with Profit & Risk to be added): \$17,059

(See attached sheet for cost details)



Timber Sale Appraisal

Logging Conditions

Joe Knife

Sale 341-07-48

"STEWARDSHIP IN FORESTRY"

Combination#: 1	Douglas - Fir	92.00%	
	Western Hemlock / Fir	92.00%	
	Alder (Red)	92.00%	
Yarding Distance:	Long (1,500 ft)		Downhill Yarding: No
Logging System:	Cable: Large Tower >=70		Process: Manual Delimiting
Tree Size:	Mature / Regen Cut (900 Bft/tree), 3-5 logs/MBF		
Loads/Day:	10		Bd. Ft./Load: 4,500
Cost/MBF:	\$78.89		
Machines:			
	Log Loader (A)		
	Tower Yarder (Large)		
Combination#: 2	Douglas - Fir	8.00%	
	Western Hemlock / Fir	8.00%	
	Alder (Red)	8.00%	
Yarding Distance:	Medium (800 ft)		Downhill Yarding: No
Logging System:	Cable: Large Tower >=70		Process: Manual Delimiting
Tree Size:	Mature / Regen Cut (900 Bft/tree), 3-5 logs/MBF		
Loads/Day:	5		Bd. Ft./Load: 3,500
Cost/MBF:	\$202.86		
Machines:			
	Log Loader (A)		
	Tower Yarder (Large)		



Timber Sale Appraisal

Logging Costs

Joe Knife

Sale 341-07-48

"STEWARDSHIP IN FORESTRY"

Date: 12/28/06

Operating Seasons: 0.6

Profit & Risk: 20%

Project Costs: \$64,164

Other Costs (P/R): \$17,059

Slash Disposal: \$0

Other Costs: \$0

Miles of Road			
Dirt	Rock (Contractor)	Rock (State)	Paved
0.6	0.7	0.0	0.0

Road Maintenance: \$1.44

Hauling Costs

Species	\$/MBF	Trips/Day	MBF/Load
Douglas - Fir	\$64.78	2.0	4.5
Western Hemlock / Fir	\$64.78	2.0	4.5
Alder (Red)	\$83.29	2.0	3.5



Timber Sale Appraisal Logging Costs Breakdown Joe Knife Sale 341-07-48

"STEWARDSHIP IN FORESTRY"

Costs	Douglas - Fir	Westem Hemlock / Fir	Alder (Red)
Logging	88.81	88.81	88.81
Road Maintenance	1.52	1.60	1.44
Fire Protection	0.54	0.54	0.54
Hauling	68.19	71.98	83.29
Other (P/R appl.)	5.67	5.67	5.67
Profit & Risk	32.95	33.72	35.95
Slash Disposal	0.00	0.00	0.00
Scaling	2.00	2.00	2.00
Other	0.00	0.00	0.00
Total	199.68	204.32	217.70

Amortization	0.00	0.00	0.00
Pond Value	591.88	332.59	564.26
Stumpage	392.20	128.27	346.56
Amortized	0.00	0.00	0.00



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal Summary Joe Knife Sale 341-07-48

Amortized

	Douglas - Fir	Western Hemlock / Fir	Alder (Red)
MBF	0.00	0.00	0.00
Value	0.00	0.00	0.00
Total	0.00	0.00	0.00

Unamortized

	Douglas - Fir	Western Hemlock / Fir	Alder (Red)
MBF	2,847.00	29.00	135.00
Value	392.20	128.27	346.56
Total	1,116,593.40	3,719.83	46,785.60

Gross Timber Sale Value

Recovery \$1,167,098.83

Prepared by: Nick Morris

Date: 12/28/06

District: Coos

Phone: (541) 267-1756

Summary of "Other Costs" for Timber Sale Appraisals

Sale Name: Joe Knife

Additional "Other Cost" with additional profit and risk to be added:

	<u>Units</u>	<u>Quantity</u>	<u>Cost/unit</u>	<u>Total Cost</u>
Felling				
Locate Corridors and Skid Roads	MBF	20	\$ 5.00	\$ 100.00
Small Tree Volume Cost addition	MBF	0	\$ 10.00	-
Directional Felling/Tree Jacking	MBF	1,116	\$ 2.00	\$ 2,232.00
Felling of unmerch material	MBF	0	\$ 1.00	-
Yarding and Loading				
Brand and paint logs	MBF	3092	\$ 1.00	\$ 3,092.00
Cull sorting/slash piling on landings	landing	3	\$ 125.00	\$ 375.00
Rig lift trees	lift tree	0	\$ 100.00	-
Artificial guy anchors(dozer, skidder)	anchor	2	\$ 500.00	\$ 1,000.00
Log Processing at landing	MBF	0	\$ 10.00	-
Skid Road Layout	MBF	0	\$ 5.00	-
Miscellaneous Costs				
Fish Log Placement in Stream	Crossings	2	\$ 505.00	\$ 1,010.00
Additional fire equipment	Seasons	1	\$ 2,000.00	\$ 2,000.00
Maintenance rock per section 54	Cubic Yards	0	\$ 18.00	-
Safety Flagging and/or signing	per day	7	\$ 110.00	\$ 770.00
Tree topping	per tree	27	\$ 100.00	\$ 2,700.00
Fish Log Stock Pile: Yarding & Decking	MBF	54	\$ 62.00	\$ 3,348.00
Fish Log Stock Pile: Special Handling	MBF	54	\$ 8.00	\$ 432.00

Total additional "Other Cost" with additional profit and risk to be added

\$ 17,059.00

Additional "Other Cost" with no additional profit and Risk

	<u>Units</u>	<u>Quantity</u>	<u>Cost/unit</u>	<u>Total Cost</u>
Non-required road construction	Stations	N/A		
Non-required road rocking	Cubic Yards	N/A		
Stream clearance	Feet	N/A		
Scaling (high piece count)	MBF	N/A	\$ 2.00	
Grass Seeding and Fertilizing	Ac	N/A		

Total additional "Other Cost" with no additional profit and Risk

\$ -

Fish Log Stockpile

Volume to be taken from inside the Joe Knife timber sale, Area 4 and yarded to the stockpile site at Point "G".

36 logs to be 60 feet in length and 20"- 24" on small end

<u>Length</u>	<u>Scaling Diameter</u>	<u>Number of Logs</u>	<u>Vol/log</u>	<u>Total Vol</u>	
60 feet	24"	12	2,070	24,840	
70 feet	22"	12	1,730	20,760	
60 feet	20"	12	1,230	14,760	
Total				36	60,360
60,360	less 10 percent defect and breakage =			54,324	

54 mbf will be removed from the cruise (2Saw)

volume per log was calculated as follows:

60 foot log split into two 30 footers to calculate scale

Segment length	Scale dia	Segment vol.	Total volume
30	24"	760	
30	27"	1030	1790
30	22"	630	
30	25"	860	1490
30	20"	520	
30	23"	710	1230

**See Other Cost summary sheet for labor estimate*

Log Placement in Stream Calculations

Sale: **Joe Knife, Knife Creek** 341-07-48

# of Yarding roads crossing Type F stream:	2	Volume total
# of logs at each crossing:	4	4.92 MBF
Total number of logs required	8	Removed from Cruise
Minimum Length of Logs (ft)	35	
Minimum Diameter at small end (in)	20	Total
Volume for Minimum Specifications	615	\$1,010
Assume 2.5 hrs/crossing	5 hours	Cost added to additional cost sheet
X hrs for yarder/skycar @ 150/hr	750	
X hrs for 4 man rigging crew @ 20/hr/ea	100	
.5 hours of felling/tree @ 40/hr	160	

Logs Are to be obtained from the inside of sale area IV of the Joe Knife Timber Sale, NOT from reserve timber. The trees will be felled within the timber sale boundary and placed into the Type F stream, (Knife Creek) by way of yarding. Where skyline corridors cross stream reach, place logs within the active channel to provide for instream habitat. The stream reach is approximately 1,000 feet in length. A total of 8 logs will be placed in the stream with a minimum small end diameter of 20" and a minimum length of 35', approximately 4.9 MBF in total.

SUMMARY OF CONSTRUCTION COST

Joe Knife

Project 1A: Road and Landing Construction - Areas I & II

Points: A to B Length: 715' Type: 14' subgrade no ditch

Clearing and Grubbing

Clear and Grub	0.85	acres at	\$1,060.00	per acre	\$901.00
----------------	------	----------	------------	----------	----------

Total Clear and Grub \$901.00

Excavation

Excavator	60	hrs at	\$120.00	per hour	\$7,200.00
Cat time to shape landing & waste area	30	hrs at	\$120.00	per hour	\$3,600.00
Dump Truck - haul to waste area	40	hrs at	\$75.00	per hour	\$3,000.00
at Point C (0.35 mi RT) and to boulder stockpile site					
Dump Truck - haul to saddle (1090 yds)	15	hrs at	\$75.00	per hour	\$1,125.00
Dump Truck - haul stumps to Point C	5	hrs at	\$75.00	per hour	\$375.00
Drill and shoot	1000	yds at	\$3.50	per yd	\$3,500.00
Laborer	50	hrs at	\$30.00	per hour	\$1,500.00

Total Excavation \$20,300.00

Grade and shape road surface

Grader time	3	hrs at	\$75.00	per hour	\$225.00
-------------	---	--------	---------	----------	----------

Total Grader \$225.00

Total Project 1A: \$21,426.00

Project 1B: Landing Construction - Areas I & II

Point: D Length: n/a Type: n/a

Excavator	15	hrs at	\$120.00	per hour	\$1,800.00
Cat time	15	hrs at	\$120.00	per hour	\$1,800.00
Laborer	15	hrs at	\$30.00	per hour	\$450.00

Total Project 1B: \$4,050.00

Move-in

Equipment	Miles	hrs/RT	Lowboy Rate/hr	Total
Excavator	25	3.8	\$95.00	\$361.00
Cat	25	3.8	\$95.00	\$361.00
Grader	25	3.8	\$95.00	\$361.00
Dump Truck	25	3.8	\$95.00	\$361.00
Drill & Comp	25	3.8	\$95.00	\$361.00

**SUMMARY OF CONSTRUCTION COST
Joe Knife**

Move between Areas I and III

Equipment	Miles	hrs/RT	Lowboy Rate/hr	Total
Excavator		1	\$95.00	\$95.00
Cat		1	\$95.00	\$95.00
Grader		0.5	\$75.00	\$37.50

Total Move-in: \$2,032.50

Project 1 Total \$27,509.00

Project 2A: Road Improvement - Area III

Points: E to F Length: 1360' Type: 14' subgrade no ditch

Excavation

Excavator to remove small trees/brush	2	hrs at	\$120.00	per hour	\$240.00
Cat time to shape road surface	2	hrs at	\$120.00	per hour	\$240.00
Laborer	2	hrs at	\$30.00	per hour	\$60.00

Total Excavation \$540.00

Grader

Grader to smooth road surface	2	hrs at	\$75.00	per hour	\$150.00
-------------------------------	---	--------	---------	----------	----------

Total Grader \$150.00

Total Project 2A: \$690.00

Project 2B: Road and Landing Improvement - Area III

Points: F to G Length: 1150' Type: 14' subgrade no ditch

Excavation

Excavator to remove small trees/brush (0+00 to 5+50)	3	hrs at	\$120.00	per hour	\$360.00
Excavator to remove stumps/small trees (5+50 to 11+50)	7	hrs at	\$120.00	per hour	\$840.00
Cat time to shape road & landing surface	5	hrs at	\$120.00	per hour	\$600.00
Laborer	5	hrs at	\$30.00	per hour	\$150.00

Total Excavation \$1,950.00

Grader

Grader to smooth road surface	2	hrs at	\$75.00	per hour	\$150.00
-------------------------------	---	--------	---------	----------	----------

Total Grader \$150.00

Total Project 2B: \$2,100.00

Project 2 Total \$2,790.00

**SUMMARY OF CONSTRUCTION COST
Joe Knife**

Project 3: Road Surfacing

Points: 2000 Rd Length: n/a Type: n/a

1 1/2" rock for maintenance on 2000 rd for after new rd const (2.3 hr RT)	<u>100</u>	yds at	<u>\$24.19</u>	per yd	<u>\$2,419.00</u>
Grader time for rock surfacing	<u>2</u>	hrs at	<u>\$75.00</u>	per hour	<u>\$150.00</u>

Project 3 Total \$2,569.00

Project 4: Benson Rock Stockpile

Location: 4.5 mi on 4000 Rd
Measured amount: 1200 cu yds
Size: 1 1/2" - 0"

Cost per cu yd at crusher:	\$13.97	per yd
Haul cost per cu yd (2.5 hr. RT):	\$11.11	per yd
Piling and shaping cost per cu yd:	<u>\$1.00</u>	per yd

Total cost per cu yd:	\$26.08	per yd
Total cu yds:	1200	yards

Total Cost for Stockpile rock: \$31,296.00

Project 4 Total \$31,296.00

Total Project Costs \$64,164.00

TIMBER SALE SUMMARY

Joe Knife

1. **Type of sale:** Final harvest; Recovery, Sealed Bid.
2. **Boundary Lines:** Sale boundaries are marked on the ground with "Timber Sale Boundary" posters, red paint, and red flagging at locations shown on the Exhibit A.
3. **Revenue Distribution:** 100% CSL.
4. **Sale Acreage:** The total sale area is 50 net acres. Buffer areas are posted outside the sale area and are not included in the net acreage calculation. The acreage was determined using orthophoto imagery on the ARCVIEW Geographic Information System program.
5. **Volume by Species, Fund, and County:** See attached table.
6. **Grade by Percent:**

Species	3 Peeler	Special Mill	2 Saw (12"+)	3 Saw (11"-10")	3 Saw Large Diameter	4 Saw/Camp (9"-6")
Douglas-fir	9 %	15 %	50 %	4 %	22 %	-----
Red Alder*	-----	-----	24 %	25 %	-----	51 %
Western Hemlock	-----	-----	16 %	21 %	56 %	7 %

* Red alder is represented by size class rather than grade.

7. Cruise: The timber sale was stratified into an Alder Strata and a Douglas-fir Strata. The Alder Strata consisted of six acres within Area One and was variable plot cruised using the Big BAF cruise design, which consisted of 14 nested plots. Each plot consists of both a full 40 BAF count plot and a full 90 BAF measure plot. The 40 BAF count plot was used to tally the number of trees by species to determine the stand basal area. The 90 BAF plot was then used to select Red Alder to cruise as measure trees. 15 Red Alder Big BAF trees were cruised for diameter, total height, grade and defect.

The Douglas-fir Strata consisted of the remainder of Area One and Areas Two through Four. The Douglas-fir Strata was cruised using the Big BAF cruise design, which consisted of 71 nested plots. Each plot consisted of both a full 40 BAF count plot and a full 250 BAF measure plot. The 40 BAF count plot was used to tally the number of trees by species to determine the stand basal area. The 250 BAF plot was then used to select Douglas-fir to cruise as measure trees. 72 Douglas-fir Big BAF trees were cruised for diameter, total height, grade and defect. Both cruise designs were analyzed using the SuperACE cruising program.

A. Cruise Summary Data:

Diameter	Top Diameter	Form Point	Form Factor	CV %	SE %
D4H	Total Height	Conifer: 16' Hardwood: 16'	Estimated or measured on all trees	53.9	8.2

B. Stand Summary:

Species	D4H	Trees per Acre	Basal Area (ft ² /ac)	BF per acre
Douglas-fir	27 (26)*	57 (9)*	259 (40)*	57,000
Red Alder	14 (15)*	14 (92)*	24 (113)*	2,700
Western Hemlock	17	4	7	580

* Numbers in parenthesis represent values from the six acre red alder strata.

C. Green Tree Retention Summary: All green trees were posted outside of the timber sale areas. There are no scattered GTR within the timber sale area.

8. **Timber Description:** It is composed of 109 to 134 year-old Douglas-fir with a minor component of red alder and scattered understory hemlock and a 6 acre mature red alder component within Area One. Conifers range from 65 to 195 feet tall while hardwoods are about 40 to 60 feet.

9. **Topography:** The units range from 05 percent to over 95 percent slope. There are a few benches as well as steep drainages.

10. **Logging Method:** The sale will be cable logged mostly uphill with single-end suspension over the unit; full suspension will be required over designated streams and RMAs. A motorized carriage will be required to obtain the necessary suspension. Tailtrees may need to be placed for yarding the sale area as approved in the operations plan.

11. **Access:** From Coos Bay, proceed north on highway 101 to Lakeside. Once in Lakeside proceed east on North Lake road which becomes the Benson Ridge Road/Forest Road 4000 for approximately 11.5 miles to the 4900 cut off road. Follow the 4900 Road to the junction of the 2000 Road and areas 1 through 3, approximately .5 miles. Proceed south on the 2000 road for .5 miles to the junction of the 8000 road. Take the 8000 road to the 7100 road, approximately 2.4 miles. Proceed on the 7100 road to the 7108, approximately 2 miles. Finally, follow the 7108 to the timber sale area 4, about .5 miles.

12. **Projects:**

Project No. 1: Road and Landing Construction

Project No. 2: Road and Landing Improvement

Project No. 3: Road Rocking

Project No. 4: Stockpile

NET VOLUMES AND ACREAGE

Joe Knife

SALE AREA & SPECIES		Tree cnt. 100% Units	NET VOLUMES (MBF)							
			By County and Fund						Total Vols.	Vol. per Acre
			Coos			Douglas				
Areas	Spec	CSL	BOF	Total	CSL	BOF	Total			
1-4	D-fir	2847		2847	0	0	0	2847	56.9	
	Hem	29		29	0	0	0	29	0.6	
	Hdwd	135		135	0	0	0	135	2.7	
TOTALS			0	3011	0	0	0	3011		

TOTAL SALE VOLUME BY SPECIES

Douglas-fir 2847 MBF
 Hemlock 29 MBF
 Hdwd 135 MBF

Report by: N. Morris

Date: 11/21/2006

Unit For. Thomas Pline Nov 20, 06
Date

Asst. Dist. For. Greg Kremer 12.07, 2006
Date

NO INGROWTH INCLUDED.

NET HARVEST ACREAGE BY COUNTY (to nearest acre)

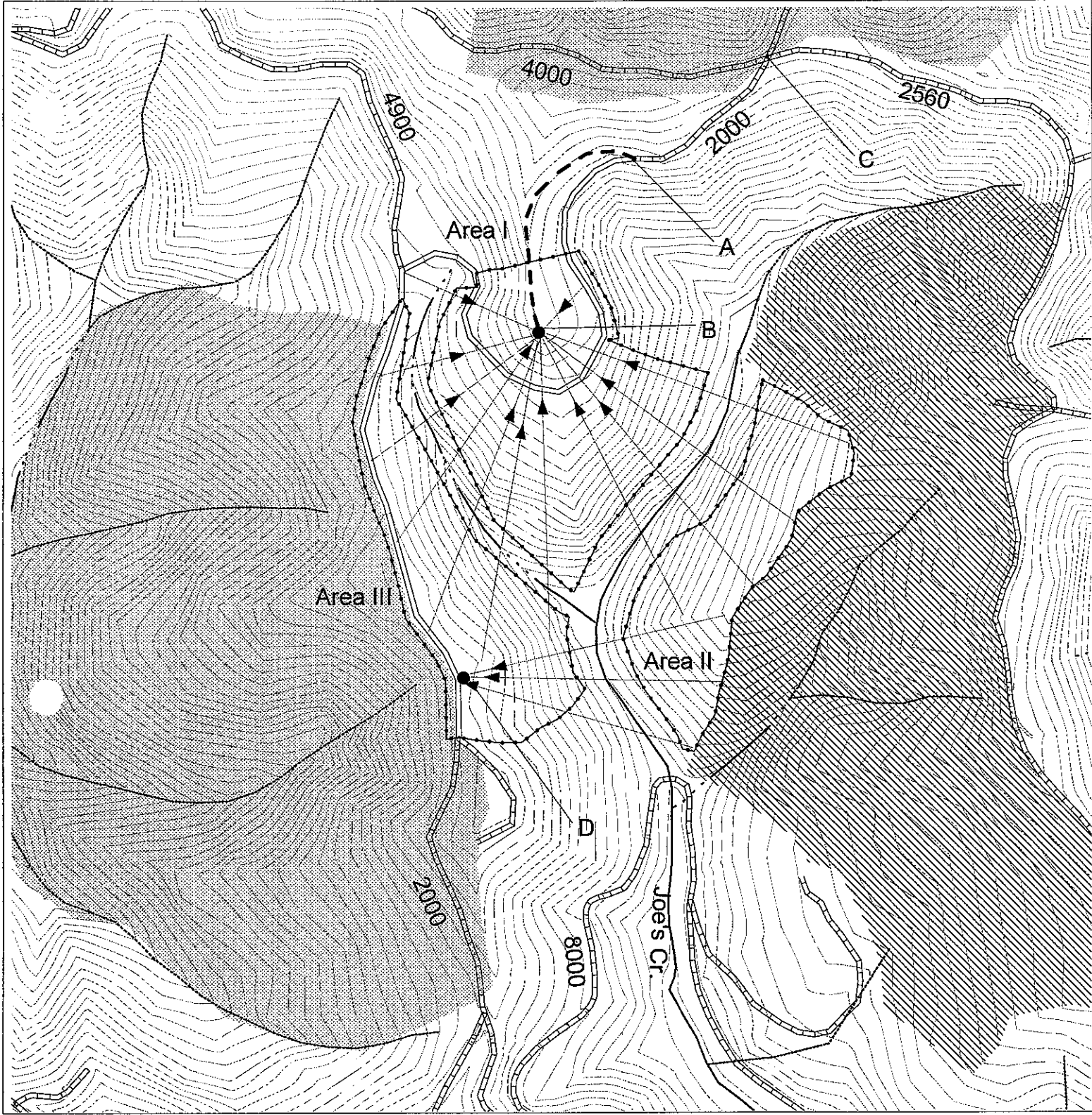
Sale Area	Coos County						Douglas County						TOTAL ACRES
	CSL			BOF			CSL			BOF			
	Conifer cc	Conifer pc	Hard wood	Conifer cc	Conifer pc	Hard woods	Conifer cc	Conifer pc	Hard woods	Conifer cc	Conifer pc	Hard woods	
I	10		6										16
II	10												10
III	11												11
IV	13												13
SUM	44	0	6	0	0	0	0	0	0	0	0	0	50

cc- clearcut

pc- partial cut

FDF- Forest Development Fund

FRA- Forest Revenue Account



Legend

Roads

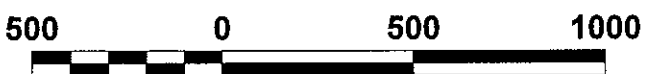
- New Construction
- Purchaser Maintained
- State Maintained

Streams

- Type F
- Type N
- Unclassified

Other Features

- Sale Boundary
- Reforestation
- MMA
- Project Points
- Yarding Roads



Approx. Scale 1" = 500'

Logging Plan
COOS DISTRICT
 OF TIMBER SALE CONTRACT NO.
 341-07-48
 JOE KNIFE AREAS I-III
 PORTIONS OF SECTION 10
 T23S, R11W, W.M.
 COOS COUNTY, OR

Area 1 = 16 ac.
 Area 2 = 10 ac.
 Area 3 = 11 ac.
 Area 4 = 13 ac.



'SEWARDSHIP IN FORESTRY'



Legend

- Roads**
- New Construction
- Purchaser Maintained
- State Maintained
- Streams**
- Type F
- Type N
- Unclassified
- Sale Boundary
- Reforestation
- MMMA
- Project Points
- Yarding Roads

**Logging Plan
COOS DISTRICT**

OF TIMBER SALE CONTRACT NO.
341-07-48
JOE KNIFE AREA IV
PORTIONS OF SECTION 1 & 12
T23S, R11W, W.M.
COOS COUNTY, OR

Area 1 = 16 ac.
Area 2 = 10 ac.
Area 3 = 11 ac.
Area 4 = 13 ac.



Approx. Scale 1" = 500'



SEWARDSHIP IN FORESTRY