



"STEWARDSHIP IN FORESTRY"

# Timber Sale Appraisal Cost Summary Fish Headwaters Sale 341-04-30

District: Coos

Date: 6/5/03

	Conifer	Hardwood	Total
<b>Gross Timber Sale Value</b>	\$992,053.77	\$24,232.56	\$1,016,286.33
		<b>Project Work</b>	(\$30,001.00)
		<b>Advertised Value</b>	\$986,285.33



# Timber Sale Appraisal Timber Description Fish Headwaters Sale 341-04-30

"STEWARDSHIP IN FORESTRY"

**District:** Coos

**Location:** portions of section 33, T22S, R10W  
Douglas County, Oregon

**Date:** 6/5/03

**Stand Stocking:** 80%

Species	Avg. DBH	Amortized%	Recovery%
Douglas - Fir	26	0	95
Western Hemlock / Fir	21	0	95
Alder (Red)	15	0	90

Volume by Grade	Douglas - Fir	Western Hemlock / Fir	Alder (Red)	Total
3P	92	0	0	92
SM	220	0	0	220
2S	1,100	278	0	1,378
3S	421	354	0	775
Camprun	0	0	88	88
<b>Total</b>	<b>1,833</b>	<b>632</b>	<b>88</b>	<b>2,553</b>

**Comments:** Pond Values Used: 1st Quarter 2003

Regeneration harvest of approximately 42 acres of mixed Douglas-fir and western hemlock mature, second growth sawtimber.



# Timber Sale Appraisal

## Logging Conditions

### Fish Headwaters

### Sale 341-04-30

"STEWARDSHIP IN FORESTRY"

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<b>Combination#:</b> 1	Douglas - Fir	91.00%	
	Western Hemlock / Fir	91.00%	
	Alder (Red)	91.00%	
<b>Yarding Distance:</b>	Short (400 ft)		<b>Downhill Yarding:</b> No
<b>Logging System:</b>	Cable: Large Tower >=70		<b>Process:</b> Manual Delimiting
<b>Tree Size:</b>	Mature / Regen Cut (900 Bft/tree), 3-5 logs/MBF		
<b>Loads/Day:</b>	14		<b>Bd. Ft./Load:</b> 4,800
<b>Cost/MBF:</b>	\$52.83		
<b>Machines:</b>			
	Log Loader (A)		
	Tower Yarder (Large)		
<b>Combination#:</b> 2	Douglas - Fir	9.00%	
	Western Hemlock / Fir	9.00%	
	Alder (Red)	9.00%	
<b>Yarding Distance:</b>	Short (400 ft)		<b>Downhill Yarding:</b> Yes
<b>Logging System:</b>	Cable: Large Tower >=70		<b>Process:</b> Manual Delimiting
<b>Tree Size:</b>	Mature / Regen Cut (900 Bft/tree), 3-5 logs/MBF		
<b>Loads/Day:</b>	11		<b>Bd. Ft./Load:</b> 4,800
<b>Cost/MBF:</b>	\$70.44		
<b>Machines:</b>			
	Log Loader (A)		
	Tower Yarder (Large)		



# Timber Sale Appraisal Logging Costs Fish Headwaters Sale 341-04-30

"STEWARDSHIP IN FORESTRY"

Date: 6/5/03

Operating Seasons: 0.4

Profit & Risk: 15%

Project Costs: \$30,001

Other Costs (P/R): \$11,598

Slash Disposal: \$0

Other Costs: \$0

Miles of Road			
Dirt	Rock (Contractor)	Rock (State)	Paved
1.0	0.0	0.0	0.0

Road Maintenance: \$0.00

### Hauling Costs

Species	\$/MBF	Trips/Day	MBF/Load
Douglas - Fir	\$0.00	2.0	4.5
Western Hemlock / Fir	\$0.00	2.0	4.5
Alder (Red)	\$0.00	3.0	3.5



# Timber Sale Appraisal Logging Costs Breakdown Fish Headwaters Sale 341-04-30

"STEWARDSHIP IN FORESTRY"

Costs	Douglas - Fir	Western Hemlock / Fir	Alder (Red)
<b>Logging</b>	54.41	54.41	54.41
<b>Road Maintenance</b>	0.32	0.32	0.33
<b>Fire Protection</b>	0.42	0.42	0.42
<b>Hauling</b>	53.79	53.79	48.67
<b>Other (P/R appl.)</b>	4.54	4.54	4.54
<b>Profit &amp; Risk</b>	17.02	17.02	16.26
<b>Slash Disposal</b>	0.00	0.00	0.00
<b>Scaling</b>	2.00	2.00	0.00
<b>Other</b>	0.00	0.00	0.00
<b>Total</b>	132.50	132.50	124.63

<b>Amortization</b>	0.00	0.00	0.00
<b>Pond Value</b>	588.59	379.40	400.00
<b>Stumpage</b>	456.09	246.90	275.37
<b>Amortized</b>	0.00	0.00	0.00



"STEWARDSHIP IN FORESTRY"

# Timber Sale Appraisal Summary Fish Headwaters Sale 341-04-30

**Amortized**

	Douglas - Fir	Western Hemlock / Fir	Alder (Red)
<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	Alder (Red)
<b>MBF</b>	1,833.00	632.00	88.00
<b>Value</b>	456.09	246.90	275.37
<b>Total</b>	836,012.97	156,040.80	24,232.56

**Gross Timber Sale Value**

**Recovery \$1,016,286.33**

Prepared by: Jon Haynes

Date: 6/5/03

District: Coos

Phone: (541) 267-1759

## Summary of "Other Costs" for Timber Sale Appraisals

Sale Name: FISH HEADWATERS

### 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>
<b>Felling</b>				
Locate Corridors and Skid Roads	MBF		\$ 5.00	\$ -
Select Trees and Fall to Lead	MBF		\$ 5.00	\$ -
Small Tree Volume Cost addition	MBF		\$ 10.00	\$ -
Directional Felling/Tree Jacking	MBF	250	\$ 2.00	\$ 500.00
Felling of unmerch material	MBF		\$ 1.00	\$ -
<b>Yarding and Loading</b>				
Clear chute at cable settings	MBF		\$ 3.00	\$ -
Brand and paint logs	MBF	2553	\$ 1.00	\$ 2,553.00
Slash piling on landings	landing	4	\$ 125.00	\$ 500.00
Rig tail trees and tailholds	tailhold	5	\$ 100.00	\$ 500.00
Artificial guy anchors(dozer, skidder)	anchor	2	\$ 500.00	\$ 1,000.00
Log Processing at landing	MBF		\$ 10.00	\$ -
Loader time for firewood stacking	Hours	3	\$ 75.00	\$ 225.00
Skid Road Layout	MBF		\$ 5.00	\$ -
Non required Road Construction	Stations			\$ -
<b>Miscellaneous Costs</b>				
Additional fire equipment	Seasons	0.4	\$ 2,000.00	\$ 800.00
Maintenance rock per section 54	Cubic Yards	60	\$ 18.00	\$ 1,080.00
Safety Flagging and/or signing	per day	35	\$ 64.00	\$ 2,240.00
Additional fire watchman	per day		\$ 25.00	\$ -
Tree topping	per tree	22	\$ 100.00	\$ 2,200.00
<b>Total additional "Other Cost" with additional profit and risk to be added</b>				<b>\$ 11,598.00</b>

### 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			\$ -
Non-required road rocking	Cubic Yards			\$ -
Stream clearance	Feet			\$ -
Scaling (high piece count)	MBF		\$ 2.00	\$ -
Grass Seeding and Fertilizing	Ac			\$ -

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

**\$ -**

**SUMMARY OF CONSTRUCTION COST  
Fish Headwaters**

**Project 1A: Road Construction**

Points: A to B      Length: 640'      Type: 14' no ditch

**Clearing and Grubbing**

0.75 acres at \$870.00 \$ per acre = \$652.50

**Total clearing and grubbing      \$652.50**

**Excavation**

Drill and Shoot	130	cubic yds at	\$3.00	per cu yd	\$390.00
Cat excavation and compaction of fill	10	hrs at	\$125.00	per hr	\$1,250.00
Excavator	5	hrs at	\$110.00	per hr	\$550.00
Laborer	10	hrs at	\$30.00	per hr	\$300.00

**Total Excavation      \$2,490.00**

**Grade Road Surface**

1 hrs Grade @ \$75.00 per hour \$75.00

**Total Grading      \$75.00**

**Project 1A Cost      \$3,217.50**

**Move-In**

Equipment	Miles	Mileage Factor	Equipment Allowance	Total
Excavator	50	1	\$533.00	\$533.00
D8 Cat	50	1	\$533.00	\$533.00
Grader	50	1	\$241.00	\$241.00
Drill & Comp	50	1	\$241.00	\$241.00

**Total Move-In      \$1,548.00**

**Total Project 1      \$4,765.50**

**Project 2A: Landing Improvement**

Point: C

**Clearing and Grubbing**

Clear trees around landing site      0.2 acres at \$800.00 \$ per acre = \$160.00

**Total clearing and grubbing      \$160.00**

**Excavation**

Cat time to expand landing site      5 hrs at \$125.00 per hr \$625.00

**Total Excavation      \$625.00**

**Project 2A Cost      \$785.00**



**SUMMARY OF CONSTRUCTION COST  
Fish Headwaters**

**Project 2B: Landing Improvement**

Point: D

**Clearing and Grubbing**

Clear trees around landing site      0.2      acres at      \$800.00      \$ per acre =      \$160.00

**Total clearing and grubbing      \$160.00**

**Excavation**

Cat time to spread out material on site      5      hrs at      \$125.00      per hr      \$625.00

**Total Excavation      \$625.00**

**Project 2B Cost      \$785.00**

**Total Project 2      \$1,570.00**

**Project 3: Road and Landing Surfacing**

**Rock for haul route**

1 1/2"-0" for 7000 Rd at completion of sale      150      cu yds at      \$17.53      per yd      \$2,629.50

**Total Rocking      \$2,629.50**

**Total Project 3      \$2,629.50**

**Project 4: Stockpile**

Location:      Fish Creek (7000/7500 jct.)  
Measured amount:      1000 cubic yards  
Delivered amount:      1200 cubic yards (20% expansion)  
Size:      1 1/2" - 0"

Cost per cubic yard at crusher:      \$7.00      per cu yd

Haul cost per cubic yard (3.0 hr. RT from CBTO):      \$10.00      per cu yd

Piling and shaping cost per cubic yard:      \$0.53      per cu yd

Total cost per cubic yard:      \$17.53      per cu yd

Total cubic yards:      1200      cubic yards

**Total Cost for Stockpile rock:      \$21,036.00**

**Total Project 4      \$21,036.00**

**Total Project Costs      \$30,001.00**

## TIMBER SALE SUMMARY

### Fish Headwaters

**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 flagging, and red paint at locations shown on the Exhibit "A". The road right-of-way boundary is marked with "Road Right of Way Boundary" posters, red flagging and red paint.

**3. Revenue Distribution:** 100% CSL; 100% Douglas County

**4. Sale Acreage:** The sale is comprised of approximately 42 acres. Sale acreage was determined from electronic digitizing using the ArcView GIS program and deductions were made for existing interior roads.

Posted Acres	Interior Road Acres	Net Cruise Acres	New Road R-O-W Acres	Net Harvest Acres
44.3	3.1	41.2	.4	41.6

**5. Volume by Species, Fund and County.** See Attached table.

**6. Grade:** (by Percent)

Species	3 Peeler %	Spec. Mill %	2 Saw %	3 Saw %	4 Saw/Camprun %
Douglas-fir	5 %	12 %	60 %	23 %	0 %
Hemlock			44 %	56 %	0 %
Hardwoods					100 %

**7. Cruise:** The sale area was variable plot cruised using a nested Big BAF plot method. The Big BAF method is a combination of count plots and individually measured trees on seventy-three (73) nested plots. The plots were spaced 1 chain apart on cruise lines spaced 5 chains apart. At each plot center a 360 BAF full plot was taken to determine which Douglas-fir trees would be fully measured. A total of 52 Douglas-fir trees were fully measured for DBH, height, grade and defect. At the same plot centers a 40 BAF full plot was used to determine tree counts and to measure minor species. Cruising was done in October/November 2002 by ODF foresters J. Haynes and C. Rudd. Volume of the road right-of-way was determined by applying compiled cruise volume per acre to this .4 acre strip.

A. Summary data:

Diam	Ht. Stand	Form Pt.	Form Factor	CV %	SE %
D4H	6" DIB or 30% of diam at 16 feet	Conifer: 16' Hardwood: 4'	Recorded for all cruised trees by estimate and measure	47 %	6.6 %

B. Defect and Breakage Summary:

BY PERCENT

SPECIES	CRUISED DEFECT	HIDDEN DEFECT	BREAKAGE	TOTAL %
DOUGLAS FIR	2	3	3	8
HEMLOCK	2	4	4	10
HARDWOODS	0	15	--	15

C. Stand Data:

SPECIES	DBH	TREES/ACRE	BASAL AREA/AC	NET MBF/ACRE
DOUGLAS FIR	26	52	200	44
HEMLOCK	21	42	105	15
HARDWOODS	15	18	22	2

D. Green Tree Retention: There are nine (9) green tree reserve areas associated with this sale. Areas 1-6 have been posted out of the sale area with "Timber Sale Boundary" posters, red flagging and red paint. Areas 7-9 are individually blue painted trees. Volumes from Areas 7-9 have been removed from the cruise. Area 9 also contains some large diameter legacy Douglas-fir trees which were not cruised.

GTR Area	D-fir count	D-fir MBF	Hemlock Count	Hemlock MBF	Hdwd Count	Hdwd MBF
AREA 7	2	5.1	1	1.5	0	
AREA 8	4	7.7	4	5.9	0	
AREA 9	8	1.4	10	3.0	0	

**8. Timber Description:** Timber in sale area is even-aged and medium to well stocked with mature 102 year-old mixed Douglas-fir/western hemlock sawtimber with a minor amount of red alder. The majority of the hemlock is situated on north or east facing slopes in the eastern part of the sale. There is some scattered western red cedar and bigleaf maple which are exempt from felling. A narrow strip of 35 year Douglas-fir will be removed along the 7400 road to facilitate yarding the western edge of the sale. Timber quality is average to good.

**9. Topography:** The majority of the sale area has moderate topography with slopes from 35% to over 60%. There is some gentle terrain situated on benches in the eastern portion of the sale area. Unnamed Type N tributaries of Fish Creek originate within the sale area.

**10. Logging Method:** The majority of the sale area will be cable logged uphill from landings on the 7000 and 7400 roads. A new spur of approximately 650 feet will be required in the southeast corner to facilitate yarding the eastern portion of the sale area. The eastern area above the 7000 road can be yarded from an existing road grade. The western area above the 7000 road can be downhill yarded to large landings on the 7000 road. Full suspension will be required while yarding over drainages, stream buffers, and on steep slopes, and full suspension will be maintained where possible over the remainder of the sale. Single end suspension will be utilized where full suspension is not possible. Fifty (50) foot width slope distance buffers have been posted on both sides of the Type N perennial streams flowing within the sale area and along the southwest corner. Green tree retention areas have been located in inoperable corners and headwalls, as stream buffer extensions, and as scattered pockets on the upper slopes. Locations of stream buffers and green tree retention areas associated with the sale area are indicated on the Exhibit "A". The 7000 road shall remain open for traffic and appropriate safety and traffic control measures shall be taken.

**11. Access:** To access the timber sale area from the south, take the Lakeside exit off Highway 101, continue east on North Lake Road to the 4000 road (Benson Ridge Road). Continue on the 4000 road for 7.5 miles to the 2000 road. Continue north of the 2000 to the 7000 road. Continue east of the 7000 road for approximately 5 miles to the junction of 7400/7500/7000 road. To access from the north, take the Loon Lake Rd (Mill Creek Road) from Highway 38 and continue for approx 1.7 miles to the 7500 road. Turn west onto the 7500 and follow the road uphill to the 7500/7000/7400 junction.

**12. Projects:** See attached "Project Cost Summary Sheet"

Project No. 1: Road Construction

Project No. 2: Landing Improvement

Project No. 3: Road Surfacing

Project No. 4: Rock Stockpile Delivery

# NET VOLUMES AND ACREAGE

## Fish Headwaters

SALE AREA & SPECIES		Tree cnt. 100% Units	NET VOLUMES (MBF)							Total Vols.	Vol. per Acre
			By County and Fund								
			Coos			Douglas					
Area	Spec		FRA	FDF	Total	FRA	FDF	Total			
	D-fir				0	1833		1833	1833	43.6	
	Hem				0	632		632	632	15.0	
	Hdwd				0	88		88	88	2.1	
<b>TOTALS</b>			0	0	0	2553	0	2553	2553		

**TOTAL SALE VOLUME BY SPECIES**

Douglas-fir     1833 MBF  
 Hemlock        632 MBF  
 Hdwd            88 MBF

Report by: J. HAYNES

Date: 3/31/2003

Unit For. \_\_\_\_\_

Asst. Dist. For. Greg Kreimayer     Date 5/6/2003  
 \_\_\_\_\_     Date \_\_\_\_\_

**NO INGROWTH INCLUDED. RED CEDAR AND BIGLEAF MAPLE EXEMPT FROM FELLING.  
 SALE ACREAGE INCLUDES .4 ACRE ROAD RIGHT OF WAY.**

**ACREAGE BY COUNTY (to nearest acre)**

Sale Area	Coos County						Douglas County						TOTAL ACRES
	FRA			FDF			FRA			FDF			
	Conifer		Hard wood	Conifer		Hard woods	Conifer		Hard woods	Conifer		Hard woods	
	cc	pc		cc	pc		cc	pc		cc	pc		
							42						42
<b>SUM</b>	0	0	0	0	0	0	42	0	0	0	0	0	42

cc- clearcut     pc- partial cut     FDF- Forest Development Fund     FRA- Forest Revenue Account

## CRUISE VOLUME COMPUTATION REPORT

SALE NAME:	Fish Headwaters	DATE:	3/31/2003
LEGAL LOCATION:	Sec. 33, T22S, R10W	BY:	J. HAYNES
	Douglas Co. OR		

### NET FIELD VOLUME MBF (Gross vol. less field cull)

SPECIES	Doug-fir	Doug-fir old-grwth	Hemlock	Cedar	Hardwds	TOTAL BY AREA	
Sale Area & R-O-W	1964		697		103		2764
less retention vol	14		10		0		24
unit total	1950		687		103		2740
<b>TOTAL</b>	1950	0	687	0	103	0	2740

### HIDDEN DEFECT AND BREAKAGE

Species	Doug-fir	Dg-fr OG	Hemlock	Cedar	Hardwds
Hidden cl	0.03		0.04		0.15
Breakage	0.03		0.04		
<b>Total</b>	0.06	0	0.08	0	0.15

### NET VOLUME BY MBF

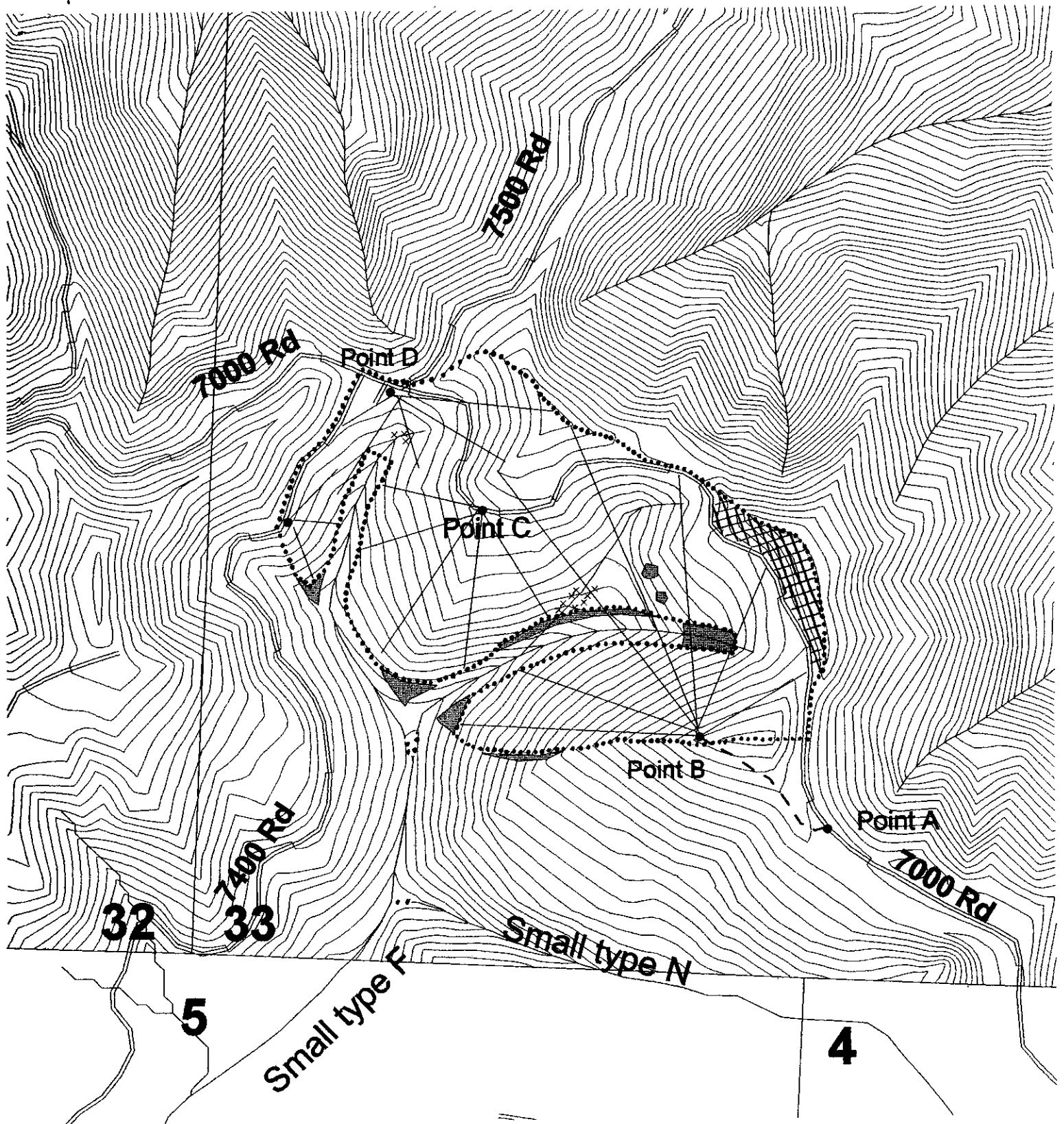
SPECIES AREA	Doug-fir	Dg-fr OG	Hemlock	Cedar	Hardwds	TOTALS BY AREA	
Sale Area & R-O-W	1833	0	632	0	88	0	2553
	0	0	0	0	0	0	0
<b>TOTALS</b>	1833	0	632	0	88		2553

### NET VOLUME BY GRADE AND MBF

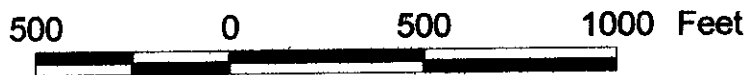
Grade >>>>>>>>>		2 PEE	3 PEE	SM	2 SAW	3 SAW	4 SAW/CR
	Species						
Sale Area & R-O-W	Doug-Fir	0	92	220	1100	421	0
	Hemlock		0	0	278	354	0
	Hdwds						88

### GRADE DISTRIBUTION BY PERCENT

Grade >>>>>>>>>		2 PEE	3 PEE	SM	2 SAW	3 SAW	4 SAW
	Doug-fir	0%	5%	12%	60%	23%	0%
	Hemlock	0%	0%	0%	44%	56%	0%
	Hardwood						100%



- Roads
- Streams
- Cable landings
- Individual gtr
- New roads.shp
- Sale boundary
- Green tree retention
- Ground yard



scale 1" = 500 feet  
 contour interval 20 feet

# Fish Headwaters Logging Plan



# WRITTEN PLAN

**SALE NAME:** Fish Headwaters

**LOCATION:** Portions of Section 33, T22S R10W, Douglas County, Oregon

**LANDOWNER:** Oregon Department of Forestry; 63612 Fifth Road, Coos Bay, Or.

**CONTRACT PURCHASER:** \_\_\_\_\_

**NOTIFICATION NO:** \_\_\_\_\_

**FILE:** I:\Timber Sales\FPAPLANS\Fish Headwaters.doc (2/12/02)

## **SITUATION AND PROTECTED RESOURCE**

The Fish Headwaters timber sale is located in the *Tyee Core Area*. Slope and headwalls within the sale area are in excess of 60% gradient and so are classed as high risk sites. The protected resource is a downstream Type F tributary to Fish Creek.

## **LAYOUT**

Landings have been provided to enable best possible deflection for suspension of logs while yarding the sale area.

## **FELLING AND BUCKING**

1. Felling will be done during the dry season of the year between April 1 and October 15, annually, unless otherwise approved by STATE.
2. Trees shall be directionally felled parallel to or away from stream riparian management areas (RMA's) as feasible.
3. High stumps shall be left as needed to catch rolling logs and minimize their accumulation in stream channels.

## **YARDING**

1. Operator will use a machine and logging system capable of fully suspending logs..
2. Yarding will be done during the dry season of the year between April 1 and October 15, annually, unless otherwise approved by STATE..
3. Operator will fully suspend logs when sufficient deflection is available.

**OPERATIONS PLAN.** Purchaser shall attach a yarding plan indicating landing locations, machinery and procedures to be used obtain adequate suspension in the sale area and to minimize impacts during the felling process.

**SLOPE PROTECTION.** Purchaser shall establish or maintain plant species that will enhance slope stability in harvested areas where needed to minimize the risk of erosion.

\_\_\_\_\_  
O.D.F. REPRESENTATIVE

DATE: \_\_\_\_\_

\_\_\_\_\_  
PURCHASER REPRESENTATIVE

DATE: \_\_\_\_\_

\_\_\_\_\_  
OPERATOR REPRESENTATIVE (if listed on notification)

DATE: \_\_\_\_\_

APPROVED BY: \_\_\_\_\_  
FOREST PRACTICES/UNIT FORESTER

DATE: \_\_\_\_\_