

FNRL STATE CDE BUSINESS MATH

PART I

Hopkins Logging Company is looking into a 80-acre timber sale in the Western Foothills of the Oregon Cascades. They are bidding on the 80-acre thinning project and hoping to pay \$425/MBF for stumpage. Given the current market conditions, they want to make sure they can make a profit on the sale. Use the background information provided below to answer the five multiple-choice questions.

Harvest Site Description		
Timber Sale Area	80 acres	
Harvest Type	Thinning	
Stand Age	50 years	
Stand Type	Douglas-fir/Western Red Cedar	
Standing Timber Volume	26 MBF/Acre	
Projected Harvest Volume	10 MBF/Acre	
	MBF=Thousand Board Feet	
Harvesting Equipment, Labor Costs, and Overhead		
Equipment or Labor Cost Type	Owning and Operating Cost/Scheduled Machine Hour (SMH) ‘this includes labor’	
Single-grip Harvester	\$200/SMH	
Forwarder	\$180/SMH	
Overhead, Planning Costs, & Support (% of SMH)	25%	
Harvesting Production Data		
Equipment	Single-grip Harvester	Forwarder
Number of Pieces	1	1
MBF/Productive Machine Hour (PMH)	20 MBF/PMH	12MBF/PMH
Utilization Rate (%)	50%	67%
MBF/Scheduled Machine Hour (SMH)	10 MBF/SMH	8 MBF/SMH
Scheduled Hours/Day	8 Hours/Day	10 Hours/Day
Other Costs		
Move-in/out Cost (Total cost)	\$2,500/Harvest Site	
Hauling Cost to Mill	\$125/MBF	
Market Information both Stumpage and Delivered		
Stumpage Cost (\$/MBF)	\$425/MBF	
Delivered Price at Mill (\$/MBF)	\$620/MBF	

PART II

A small woodland owner recently purchased a neighbor's 40 acre forested property. As part of the sale, they needed to get a timber inventory for the bank loan, and they want to harvest 10 acres to help with the cost of the purchase. The 60-year-old forested property is located in the Oregon Coast Range and was purchased for \$20,000 per acre. Below is an inventory and current market stumpage valuation of this mix conifer forest that is relatively uniform across the ownership (given on a per acre basis).

Tree Species	MBF/Acre	Stumpage Value/Acre
Douglas-fir	20	\$8,500
Western Red Cedar	5	\$2,875
Western Hemlock	5	\$1,750
Red Alder	7	\$2,625
Big Leaf Maple	3	\$0
Total	40	\$15,750