



NAME \_\_\_\_\_ DATE \_\_\_\_\_

## FOREST USE

Identify how many acres you will devote to each forest use. The total must equal 400 acres.

FOREST USE								
	Wildlife	Timber	Trails	Campground	Hunting/ Foraging	Reservoir	Cultural Sanctuary	TOTAL
<b>Area (acres)</b>								<b>400 Acres</b>

## ENVIRONMENTAL FACTORS

### Step 1: Wildlife Conservation

Determine how your plan will affect the wildlife management indicator species. Put the number of planned acres for each forest use in all the blank boxes below for that use (a black space means that the species won't live in an area with that use). Multiply the total acres per species by the number of animals per acre. (For owls and wood rats, round down to the nearest whole animal.) Compare the new population totals with the original population of 8 owls, 400 wood rats, and 10,000 salamanders.

	FOREST USE							TOTALS		
	Wildlife	Timber Production	Trails	Campground	Hunting/ Foraging	Reservoir	Cultural Sanctuary	Total Acres Per Species	Animals Per Acre	New Population
<b>Owls</b>			—	—					0.02	
<b>Wood Rats</b>				—		—			1.0	
<b>Salamanders</b>			—	—		—			25	

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### Step 2: Number of Trees

Trees will need to be removed in order to build any trails, roads, or campground, or to harvest timber. Put the number of planned acres for each forest use in the blank boxes below for that use. Multiply the total acres for each use by the number of trees removed per acre. Add up the total trees removed. Initially, 400-Acre Wood contains 37,000 trees. Calculate how many trees will remain with your plan.

	FOREST USE							TOTAL	
	Wildlife	Timber	Trails	Campground	Hunting/ Foraging	Reservoir	Cultural Sanctuary	Trees Removed	Trees Remaining
Area (acres)									
Trees Removed per Acre	0	40	10	20	10	150	0		
Total Trees Removed									
Total Trees Remaining Per Plan									

### Step 3: Stream Protection

To protect the stream, any timber activities in your plan must include a “buffer” along the stream. Check that your plan does not have any timber squares touching the stream.

### SOCIAL FACTORS

#### Step 4: Number of Visitors

Calculate the number of visitors your plan will attract to the forest each year. Multiply the number of acres for each forest use by the numbers below. Then, add the totals.

	FOREST USE							TOTAL
	Wildlife	Timber	Trails	Campground	Hunting/ Foraging	Reservoir	Cultural Sanctuary	
Area (acres)								
Visitors per Acre per Year	5	5	25	50	2	60	0	
Visitors per Plan per Year								



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### Step 5: Cultural Site Protection

Calculate how well your plan safeguards the cultural site. For each forest use in your plan, measure on your map the shortest distance (in feet) to the cultural site, and place that distance in the table below. Assign 1 point for each 500 feet in distance to the site (rounded to the nearest whole number). Wildlife and Cultural Sanctuary are worth 10 points each, as they do not affect the site. The final score is the lowest of the points that is not 0.

	FOREST USE							SCORE
	Wildlife	Timber	Trails	Campground	Hunting/ Foraging	Reservoir	Cultural Sanctuary	
Area (acres)								
Distance (in feet)								
Points	10						10	

### ECONOMIC FACTORS

#### Step 6: Construction Costs and Revenue

Calculate the net cost of developing the site for your plan. To determine the construction cost, multiply the number of acres for each forest use by the dollar amounts below, and then add the numbers to find the total. To calculate the revenue, multiply the number of trees removed for each forest use (from Step 2 above) by \$50 per tree, and then add the numbers to find the total. Subtract the total revenue from the total construction cost to determine the net cost. (If the number is positive, it is a cost; if it is negative, it is a revenue.)

		FOREST USE							TOTALS
		Wildlife	Timber	Trails	Campground	Hunting/ Foraging	Reservoir	Cultural Sanctuary	
Area (acres)									
COSTS	Construction Cost per Acre		\$2,025	\$1,200	\$6,000	\$2,025	\$16,200		
	Total Construction Cost								
REVENUE	Revenue: Sale of Trees (\$50 per Tree)								
NET COST	Net Cost (Total Construction Cost Minus Income)								

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### Step 7: Annual Costs and Revenue

Calculate the annual management costs for your plan. Multiply the management costs per acre by the number of acres for each forest use, and then add the numbers. To determine the income from fees, multiply the fees per visitor by the number of visitors for your plan (from Step 4), and then add the numbers. Subtract the Total Revenues from the Total Management Costs to determine the annual cost or revenue. (If the number is positive, it is a cost; if it is negative, it is a revenue.)

		FOREST USE							TOTALS
		Wildlife	Timber	Trails	Campground	Hunting/ Foraging	Reservoir	Cultural Sanctuary	
Area (acres)									
COSTS	Management Costs per Acre	\$4	\$40	\$20	\$100	\$8	\$20	\$4	
	Total Management Costs								
REVENUES	Visitors per Plan per Year								
	Revenues: Fees per Visitor	\$1	\$2	\$2	\$8	\$6	\$6	\$0	
	Total Revenues								
NET COST	Net Cost or Revenue (Total Management Costs minus Total Revenue)								



## CAREER CORNER

**NATURAL RESOURCE ECONOMISTS** are concerned about the sustainable use of energy, food, forests, and other natural resources. They may work to find the most efficient and least expensive ways to manage forests and to supply or manufacture forest products.

