Mt Elinor Forests Field Trip Exercise

Forests Through Time and Space Fall/ Winter, 2004/05

Objectives

- To sample the higher-elevation forest around Mt. Elinor
- To see several "new" tree species (Pacific silver fir, mountain hemlock, Alaska yellow cedar)
- To observe geologic features of the Olympics and Puget sound.

The methods you will use are identical to the methods that you used on the Peninsula field trip. The calculations and summary tables (as outlined in the *Making Sense of Forest Data* instructions) will be the same with one exception—you will need to calculate the actual area of your plot.

When you are out working in the forest, remember to minimize your impact. Tread lightly, leave no trace.

Tools needed (per each three-person team)

In addition to your standard field gear, you will need

- Angle gauge or wedge prism
- DBH tape
- Field tape
- Corner stakes (4)
- Field guides
- Clinometer

Field work

At each forest site, your team will be assigned a beginning location and a compass heading for your sampling transect (line). Before beginning, prepare a data table in your field notebook. Discuss with your partners how the work will be divided.

1. To begin, take about 50 paces into the forest to eliminate any edge-effect bias.
2. Record your location, approximate distance from the upper or lower trailhead.
3. Write a brief, but detailed description of the forest. Include the relative amount of light, tree density, size, slope, location, aspect, etc.
4. At this location, you can begin to take variable plot counts. Take ten plots in each forest, separate the centers of each plot by going at least past the furthest "in" tree in the direction of your compass heading.
5. At each variable plot location, assess the canopy cover by counting squares in the sampling grid.
6. Random choose a number of paces along your compass line to establish either the corner or center of your fixed plot.
7. Use a rectangular fixed plot, 66 ft on a side. On level ground, this would be 0.1 acres, but on the slope, it will be less. Measure the angle of the slope using the clinometer, **record the slope angle in degrees (left-hand scale)**. Be sure to sight on something the same height as your eye.
8. Assess the various layers of the forest using the methods in the *Measuring Forests* handout.
9. Summarize your data on a Forest Summary data sheet. Make sure that each person in the group has a copy of the data summary.
10. Complete a set of summary tables as outlined in the *Making Sense of Forest Data*

Converting slope distance to horizontal distance

You will need the slope angle in degrees. If you recorded % slope, you can convert it to degrees by entering it as a decimal (e.g. 35% as .35) into your calculator and pressing the $\tan^{-1}$ key (19.29°). Then to convert the distance up/down slope to horizontal, use horizontal distance = cosine (slope angle in degrees) x slope distance. For example, 66 ft on a 20° slope would be 66 x cosine 20 = 62 ft. Thus, your plot area would be 66 ft (across the slope) time 62 ft down slope or 4092 ft^2. This is a 0.094 acre plot instead of a 0.1 acre plot and your subsequent calculations would need to be adjusted accordingly.

Forest Summary Sheet

Group members:		
Location	**Date**	
Description		

Variable plot data	BAF=											
Plot number	1	2	3	4	5	6	7	8	9	10	**Average**	**BA/Acre**
Tree counts												

	# of cells containing										Average	canopy cover %
Canopy cover grid size												

Fixed plot data

Overstory Trees

Species	DBH

Sapling/ Tall Shrub Layer

Species	Abundance

Shrub Layer

Species	Abundance

Herbaceous Layer

Species	Abundance

Moss Layer

	Abundance