



Estimating the Percentage of Landcover in Your Schoolyard:

We are really interested in your schoolyard's habitat structure. So for any of the Ecology Explorers protocols we ask that you do a "Habitat Description" that divides the plants in your study site into three layers. The layers are divided into 1) ground level (<.15 m), 2)shrub level (.15m – 1.5 m), and 3) tree level (>1.5 m). Ground level is further subdivided into concrete/gravel, buildings, and plants.

Here are two ways to estimate the percentage of each type of plant cover in your plot.

- A. Calculate the percentage of each type of cover by dividing it by the total surface area of the plot and multiplying by 100. For example if you found the total surface area of the lawn in a 10m² plot is 5 m² than 5 m²/10m² times 100 would give you 50% of the surface area is covered by lawn. If there are various land cover types that are irregularly shaped, estimate their size by measuring them as rectangles, squares, etc.
- B. Line transect/intercept method: this method consists of taking observations on a line or lines laid out randomly or systematically over the study area.
 - a. Determine how long each transect line will be. In many ecological studies the length is either 50 m or 100 m. This may be too long for your study site so you can use a shorter length.
 - b. Subdivide the transect line into predetermined intervals such as 1 m.
 - c. Move along the line, and at each interval record the plants at each height interval (i.e. <.15m, 0.15-1.5 m, >1.5) and the distance they cover along that portion of the line intercept. Consider only those plants touched by the line or lying under or over the line.
 - i. For grasses, rosettes, herbs, measure the distance along the line at ground level
 - ii. For shrubs and trees, measure the distance covered by a downward projection of the foliage above.
 - iii. For concrete, gravel, etc. measure the distance along the line at ground level.

You need to do several transect lines in the area and then combine the results. The number of lines you do depends on the size of the plot. For small plots 5- 10 lines may be sufficient, for larger plots you may wish to do 20 to 30 lines.

You can figure out the percentage of each type of cover by:

$$\left[\frac{\text{Total intercept length vegetation type A}}{\text{Total transect length}} \right] \times 100 = \% \text{ cover}$$

For example, if you did 5 20m transect lines and you found that shrubs (0.15 m-1.5 m) intercepted the line for a total of 15m then:

$$\left[\frac{15}{5 \times 20} \right] \times 100 = 15\%$$

Method A



Data Sheet for Estimating the Percentage of Landcover in Your Schoolyard

Total Surface Area Surveyed _____(m²)

	Area Covered(m ²)	<u>Area Covered</u> Total Area Surveyed	Percentage
<0.15 m			
Lawn			
Other Vegetation			
Gravel/Soil			
Pavement/Building			
<hr/>			
0.15-1.5 m			
<hr/>			
>1.5 m			



Method B: Line Transect/Intercept

Data Sheet for Estimating the Percentage of Landcover in Your Schoolyard

Total Length of Transects Line(s) _____ (m)

Point	< 0.15 m Length along transect line (m)				0.15-1.5 m Length along transect line (m) Shrubs and other vegetation	>1.5 m Length along transect line (m) Tree Canopy
	Lawn	Gravel or Soil	Pavement or Building	Other Vegetation		
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						

Totals: $\frac{\text{Total length along transect line}}{\text{Total length of transect line}} \times 100 = \%$ coverage

Lawn _____ = _____%

Other Vegetation _____ = _____%

Gravel/Soil _____ = _____%

Pavement/Building _____ = _____%

Shrubs _____ = _____%

Tree Canopy _____ = _____%



Data Sheet for Multiple Line Transect/Intercepts

	Length along transect 1	Length along transect 2	Length along transect 3	Length along transect 4	Length along transect 5	Total
<0.15 m						
Lawn						
Other Vegetation						
Gravel/Soil						
Pavement/Building						
<hr/>						
0.15-1.5 m						
<hr/>						
>1.5 m						