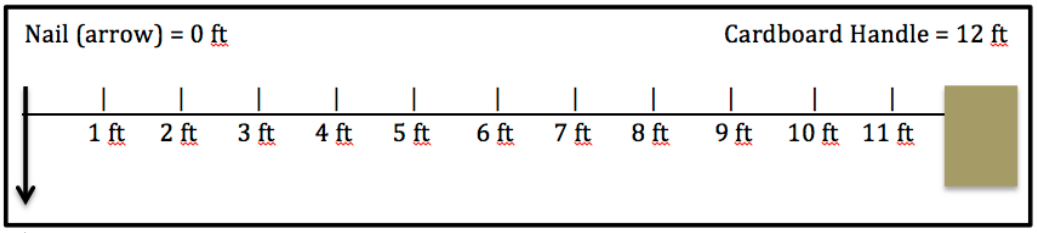
HANDOUT 1: LINE TRANSECT

A line transect is an ecological sampling method. Scientists use a line transect to record data organisms living in an ecosystem. A line transect studies a small section of an ecosystem. It produces data that are representative sampling of the organisms found in the ecosystem. The data can also include abiotic factors such as water and temperature.

How do we construct a line transect? A line transect can be made with heavy string. A large nail can be used as an anchor on the ground, and a thick cardboard piece or scrap wood can be used as a handle.

Below are steps to make a 12 feet line transect:

- Measure and cut 12 feet of heavy string.
- Tie one end of string to the cardboard/scrap wood handle.
- Tie the other end of string to the nail.
- Mark the string at every meter with colored marker (see below).
- Unroll and lay string across the focused area for study.
- Label each mark section with a number. E.g., 0-1 meter as quadrant #1, 1-2 meter as quadrant #2.



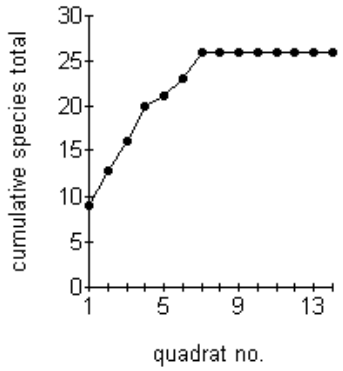
Observing and recording data on any quadrant:

- Go to one end of the meter mark (e.g., 0 meter in the 0-1 meter quadrant). Stand on the line, and stretch arms out to both sides.

- Observe and record organisms found within arm's length on either side of the line:

Mangrove Trees to the LEFT of the Line: numbers, physical characteristics, name (if known)	Foot	Mangrove Trees to the RIGHT of the Line: numbers, physical characteristics, names (if known)
1 tall mangrove palm tree	0	1 tall mangrove palm trees
none	1	1 mangrove apple tree, surrounded by very thick roots and has lots of fruits
1 red mangrove tree surrounded by lots of tall roots 1 mangrove apple tree with fruits	2	1 red mangrove trees surrounded by lots of tall roots

Scientists also use graphing as a way to share sampling data from a line transect. The graph below is an example graph of the sampling data. The X-axis represents the quadrant number, and the y-axis represents the number of organisms:



Retrieved from http://www.countrysideinfo.co.uk/3howto.htm

Based on the graph, what conclusion can you make about the organisms in the ecosystem under study?

Reference:
http://www.countrysideinfo.co.uk/3howto.htm
http://gen.uga.edu/documents/biodiversity/activities/A%20Line%20Transect.pdf

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