

## SANDY AND MUDDY SHORE TRANSECT SURVEY SAMPLING METHOD

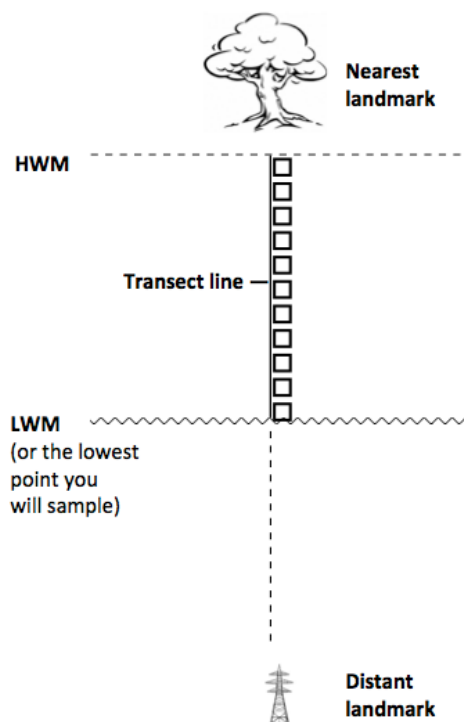
The aim for the class will be to construct a table that shows the mean density and distribution of intertidal organisms from the upper limit of the tide's influence to the low water mark.

*In some areas it will be impossible to reach the low tide zone due to distance or stickiness of the mud. In these areas the transect should be extended to go through at least 3 distinct habitats (eg mangrove, shellfish bed, eelgrass bed).*

The class will set up 3-5 randomly placed transects that will run from the upper limit of the high tide's influence (the high water mark, or HWM) down the shore to the water's edge at low tide (the low water mark, or LWM) or to a predetermined point. Each group of 3-4 people will be responsible for surveying one transect.

Along each transect there will be 11 sampling points. At these points a quadrat will be placed to measure the abundance of all of the animals and plants found there. The sampling points will be evenly spaced along the transect at regular intervals of 1/10 the total transect length. Each sampling point will correspond to a different tidal level i.e. quadrat 1 (Q1) will always be at the upper limit of the high shore; Q5 will be the mid shore sample, and Q11 the lowest of the low shore samples (Figure 13).

As each group will use the same method, their data can be pooled. At the end of the survey the pooled data can be used to calculate the mean density at each shore level for all species found in the survey.



**Date:** \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_

**Location:** \_\_\_\_\_

**High Shore Landmark:** \_\_\_\_\_

**\* Transect Position:**  
(Distance along horizontal transect)

**\* Transect Length:**  
(Distance from high to lower water mark)

**Transect extends from high water mark to low water mark**

**Transect extends from high water line through three distinct habitats**

**\* Sampling Interval:**  
(Transect length / 10)

**Exposure:**       Very Exposed       Exposed

**Low Tide Time:** \_\_\_\_\_

**Low Tide Level:** \_\_\_\_\_

**Weather:** \_\_\_\_\_

**Surveyors** \_\_\_\_\_

**GPS/Map ref (optional):** \_\_\_\_\_

**Distant Landmark:** \_\_\_\_\_

paces: \_\_\_\_\_ metres: \_\_\_\_\_

paces: \_\_\_\_\_ metres: \_\_\_\_\_

\_\_\_\_\_ **SELECT ONE OF THESE**

paces: \_\_\_\_\_ metres: \_\_\_\_\_

Sheltered       Estuary (freshwater input)

**Aspect:** \_\_\_\_\_

**Air Temp:** \_\_\_\_\_ °C

**Sea Temp:** \_\_\_\_\_ °C

\* For more meaningful data, see method for how to convert paces to metres.

**Site Description:**

Describe your study site and any features that could influence plants and animals of the area.(e.g. freshwater creek entering at 50m from site; upper shore modified by road or other structures; popular site for cockle collectors, etc.).

**Main substrate and/or Habitat descriptions:**

These describe if substrate is gravel, muddy, or sandy, as well as if there is a film of algae on the surface. Habitat type such as shell bed or eel grass bed will help you compare data with sites in other locations.

Distance along transect (metres)	0 High shore										Lower shore
Quadrat	1	2	3	4	5	6	7	8	9	10	11
Substrate type: (gravel/mud/sand, etc)											
Habitat type: (eg eel grass, mangrove, shellfish bed)											
Substrate temp:											
RPD (cm)											

**Surface Counts:**

Count the animals (epifauna), surface features and seaweeds present. You may count surface features such as bamboo worm faecal deposits or ghost shrimp mounds if you are confident about their identification. Do not count empty shells. Record plants and seaweed as % cover, e.g. *Ulva* 2%.

Surface feature, animal name or plants/seaweed present	Number of organisms per Quadrat										
	Q1 High shore	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11 Lower shore

**Infauna Counts:**

A count of the animals that live in the sediment is obtained by sieving one core sample per quadrat, using a large tin can with 10cm diameter pushed into sand to a depth of 10 cm.

Common or Scientific Name	Number of organisms per sediment core										
	Q1 High shore	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11 Lower shore