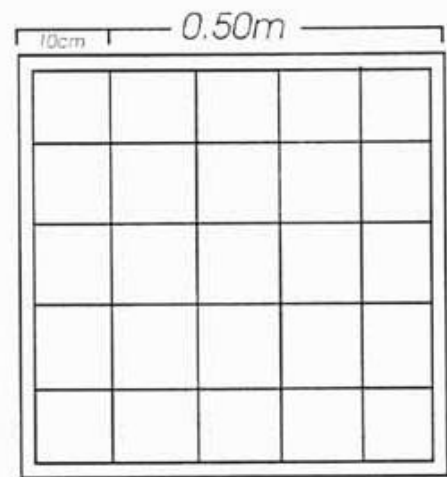


Field studies - Quadrat sampling

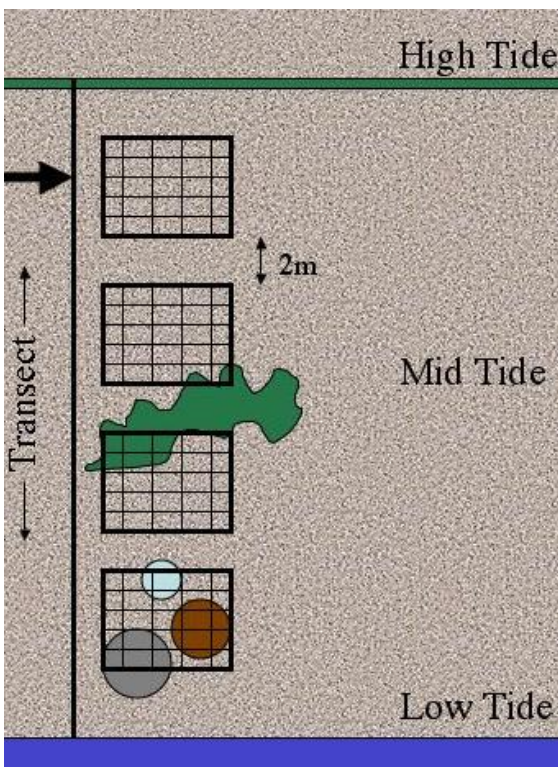
Quadrat sampling is a method by which organisms in a certain proportion (sample) of the habitat are counted directly.

It is used to estimate population **abundance** (number), **density**, **frequency** and **distribution**...

The quadrat position are chosen randomly or they are placed along a transect.
A **transect** is a line placed across a community of organisms.



$$\text{Estimated average density} = \frac{\text{Total number of individuals counted}}{\text{Number of quadrats} \times \text{area of each quadrat}}$$



The population of each quadrat must be known exactly. Species must be distinguishable from each other, even if they have to be identified at a later date.

Enough quadrat samples must be taken to provide results that are representative of the total population.

Examples: Mapping

Quadrats and transects perpendicular-to-shore can be used to quantify habitat types:

- **substrate type** (cobble, pebble, gravel, sand) ;
- **algae** (brown, red, green) ;
- **shells**...
- **plants**

Quadrats sampling can be also used to evaluate the impact of **weathering**, **trampling** or **erosion** in an **ecosystem** or at a **cliff** or **rock face**...