Estimating Percentage Cover in your Quadrat

A smaller quadrat can be very useful in your Mm^2 survey when you need to work out the percentage cover of substrates and seaweeds. It also can be useful when estimating the number of small species that are very abundant (e.g. barnacles).

There are 100 squares 10 cm x 10 cm in a 1 m^2 area . As one of these squares is equal to 1% of the m^2 area, it is a useful size to use for a smaller quadrat.

Making a 10 cm x 10 cm Quadrat

An easy way to make this is by using the lid off an ice cream 2-litre container!

1. Measure and mark out 10 cm x 10 cm on your lid using the centre of your lid as the centre of your square.
2. Carefully cut around the 10 cm x 10 cm square so your lid now has a hole in the centre.
3. Done! You have now made a 10 cm^2 quadrat!

Estimating Percentage Coverage:

It is easy to estimate the percentage coverage of sand in you quadrat when it covers half of the square (50%) or a quarter of the square (25%), but when there is a small patch here and patch over there… it is more difficult to add things up.

As your 10 cm x 10 cm quadrat, represents 1% of the square it can be easily used to calculate the percentage coverage for substrates or seaweed species that only cover a small percentage of the square. Make sure you work on one substrate type or one species of seaweed at a time!

Don't forget to enter your information on the Marine Metre Squared website:
www.mm2.net.nz

For example: calculating the percentage cover of Neptune's Necklace (*Horomisa banskii*)

1 + 1 = total of 2%

You can investigate how accurate your estimation of the percentage cover of substrate is by using a printed out photograph of your quadrat. Find the instructions on how to do this here!

You can also use your 10 cm x 10 cm square for estimating the number of animals in your m² (under certain instances)

Estimating Number of Colonial Species
You may come across some animals that live in colonies (e.g. sponges or ascidians) and again, it can be tricky to separate the number of individuals. In this case, it is better to record these kinds of species as a percentage cover - this is where your 10 cm x 10 cm square can be very handy!

Estimating Numbers of Species in High Densities
You may also use your 10 cm x 10 cm square when you have high densities of species (e.g. barnacles, tube worms) by scaling up the number of species found in your smaller square to estimate how many are in your m². This can be done in 5 steps:

1. Count all the individuals within your 1% area.
2. Count how many other areas with a similar density of your chosen species are present in your m².
3. Multiply the number of individuals in a 1% area by the total percentage cover present in your m²
4. Record the total for that species on your datasheet
5. Repeat for other species if necessary.

For example – If you count 100 barnacles in the 10 cm x 10 cm quadrat, and there are 7 areas of a similar size that have a similar density of barnacles, then you could multiply 100 barnacles x 7 patches (10 cm x 10 cm) = ~ 700 barnacles per m².

If you have any more questions – contact us on email marinemetresquared@gmail.com or via Facebook!

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