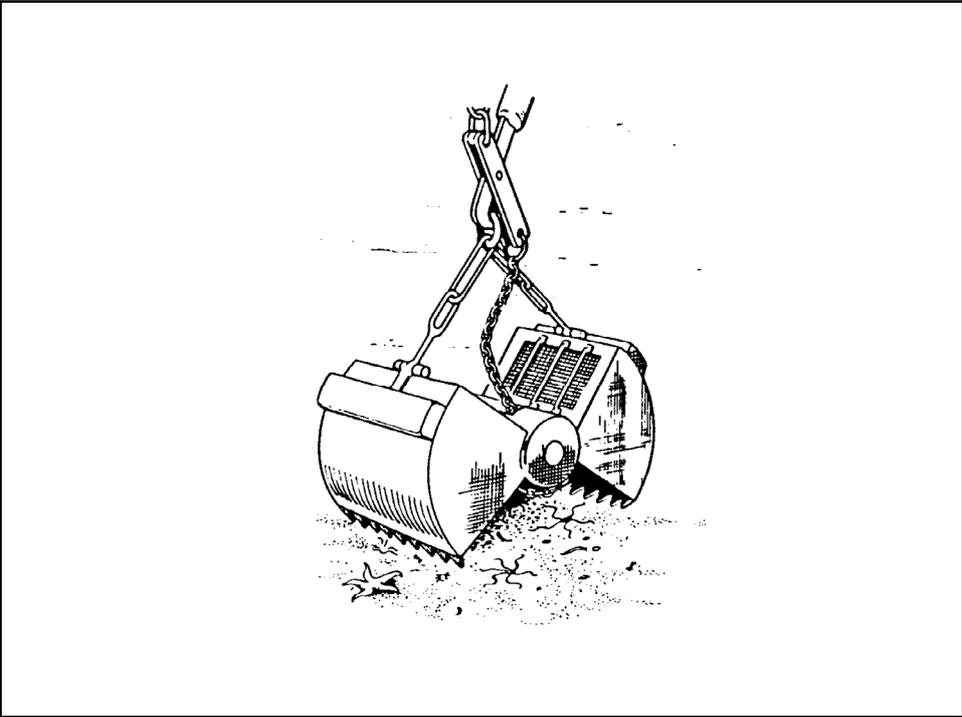
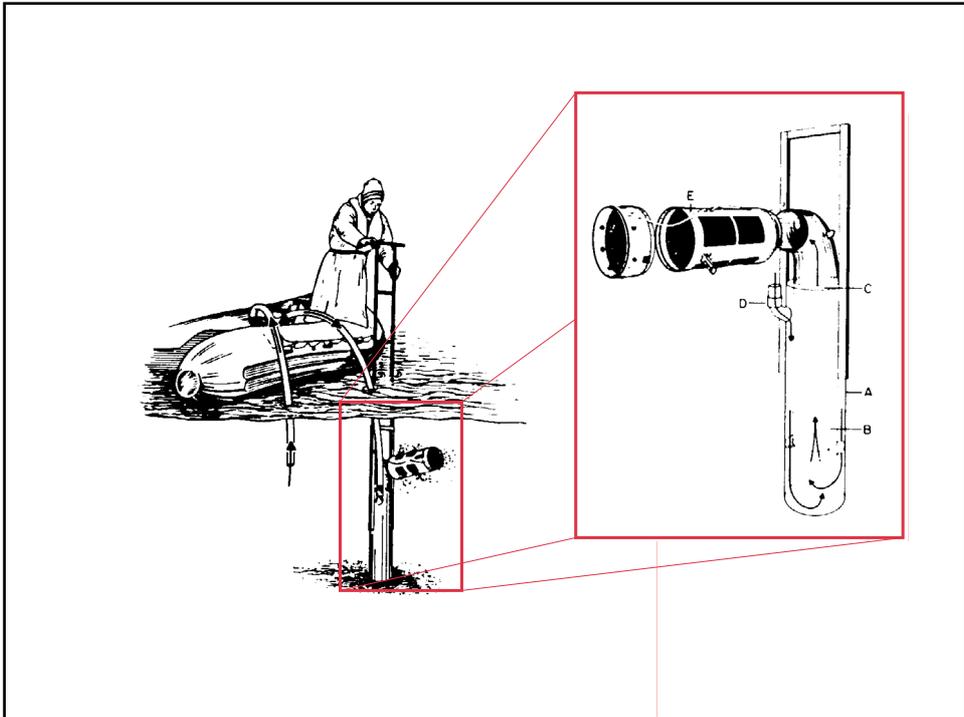
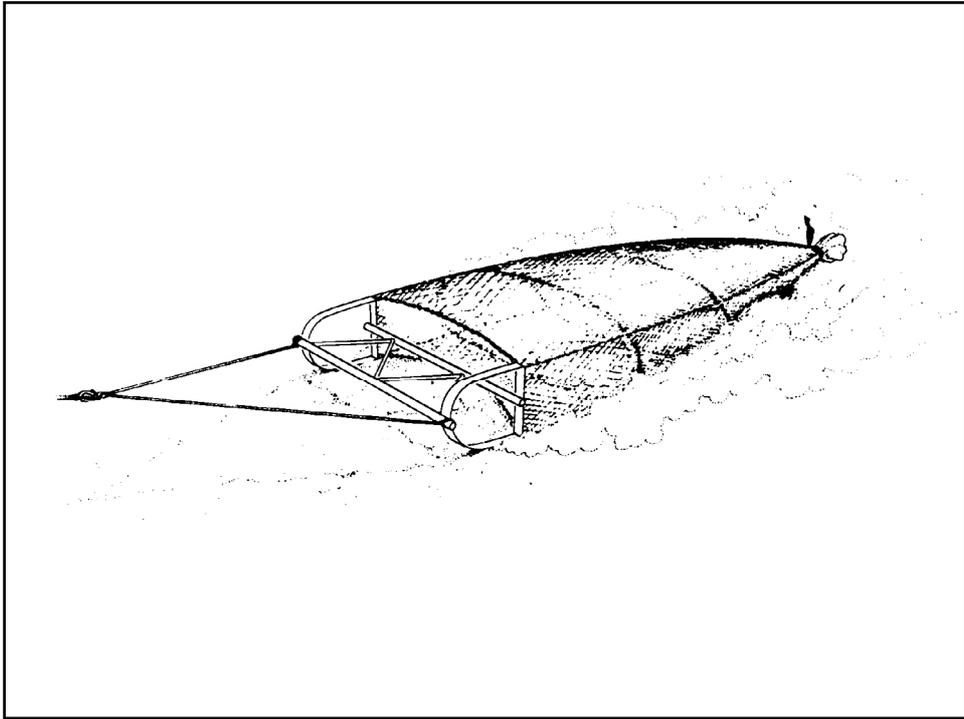


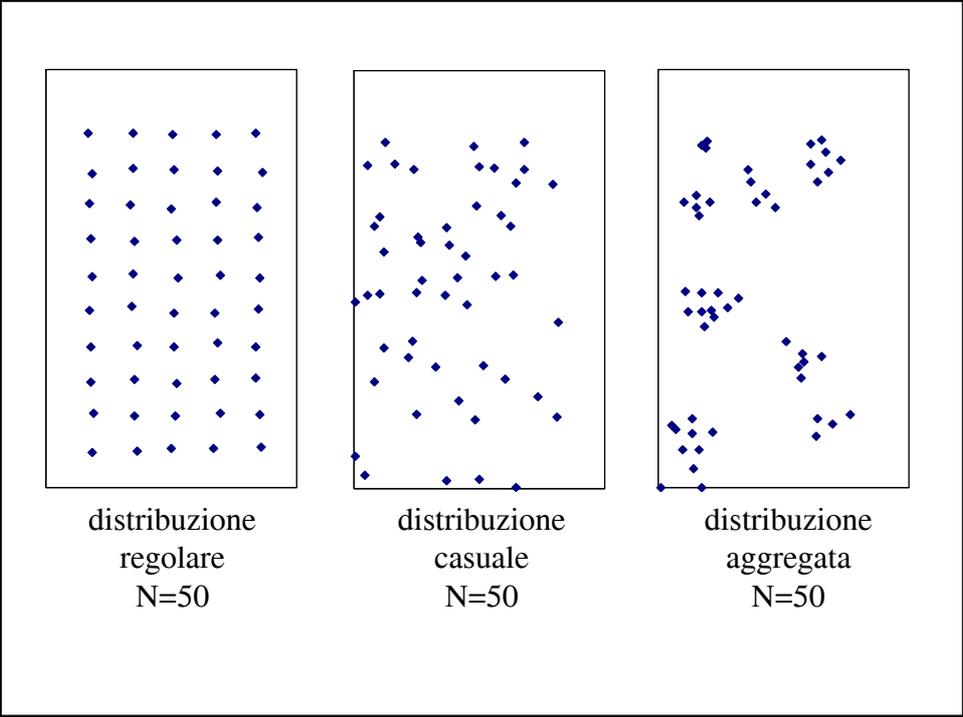
Le modalità di dispersione degli organismi nello spazio







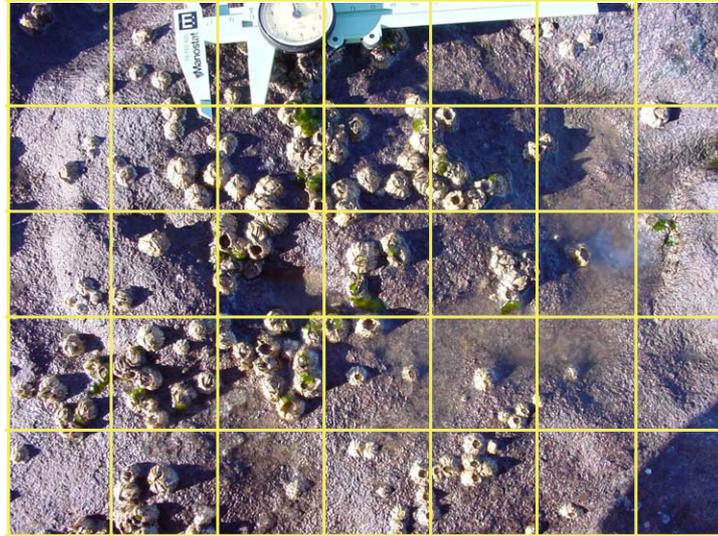




1. Numero di individui totale nel quadrato campione



2. Numero di individui nei quadrati elementari



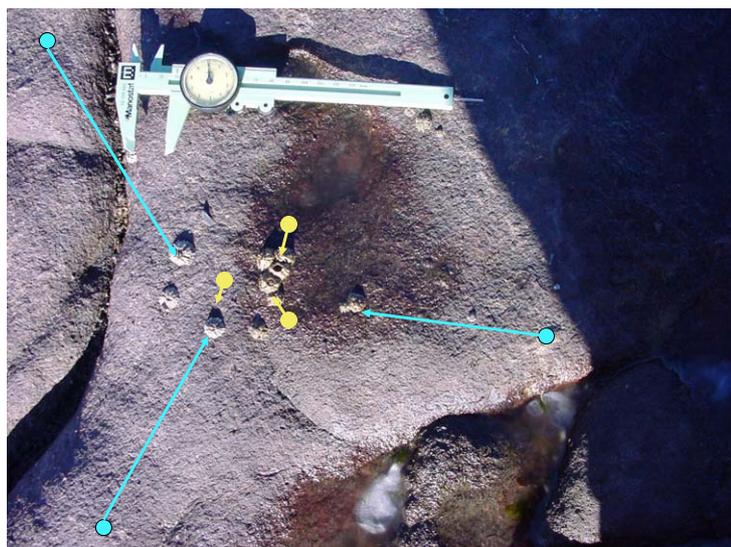
3. Distanza da un individuo a caso al vicino più prossimo



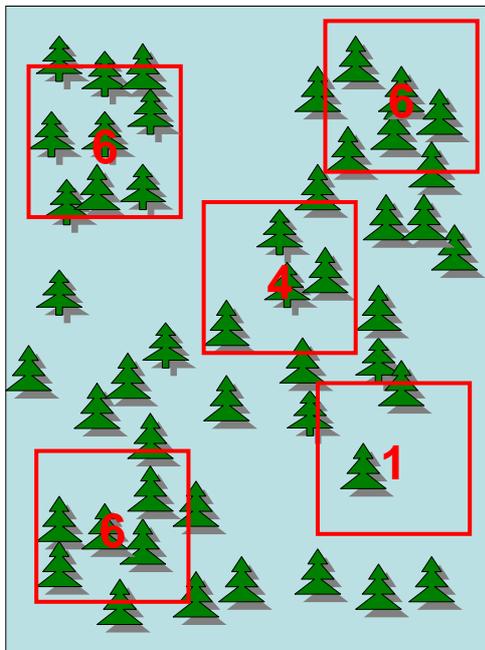
4. Distanza da un punto casuale al vicino più prossimo



Effetto dell'aggregazione degli individui:
sovrastima o sottostima della densità



La scala di campionamento influenza tutti i risultati!



$$\bar{x} = \frac{6+6+4+1+6}{5} = 4.6$$

x	x- \bar{x}	(x- \bar{x}) ²
6	1.4	1.96
6	1.4	1.96
4	-0.6	0.36
1	-3.6	12.96
6	1.4	1.96

$$\begin{aligned} \Sigma &= 19.2 \\ n-1 &= 4 \\ \hline s^2 &= 4.8 \end{aligned}$$

$$R = \frac{s^2}{\bar{x}} = \frac{4.8}{4.6} = 1.04$$

Gradi di libertà = 5-1= 4

gradi di libertà	limite inferiore	limite superiore
1	0.00	3.84
2	0.10	5.99
3	0.35	7.81
4	0.71	9.49
5	1.15	11.07
6	1.64	12.59
7	2.17	14.07
8	2.73	15.51
9	3.33	16.92
10	3.94	18.31
15	7.26	25.00
20	10.85	31.41
25	14.61	37.65
30	18.49	43.77
40	26.51	55.76
50	34.76	67.50

regolare

casuale

aggregata

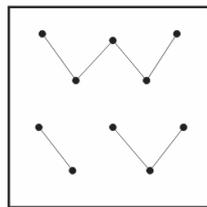
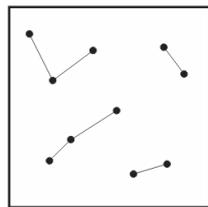
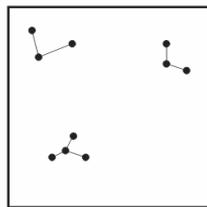
Nearest neighbour distance

distanza media attesa per una distribuzione spaziale casuale (Poisson)

$$\bar{\delta} = \frac{1}{2} \sqrt{A/n}$$

rapporto fra distanza media osservata ed attesa (distribuzione aleatoria)

$$R = \frac{\bar{d}}{\bar{\delta}}$$



è infinita o toroidale

$$\sigma_{\bar{\delta}}^2 = \frac{(4-\pi)A}{4\pi n^2} = \frac{0.06831 \cdot A}{n^2}$$

$$s_{\bar{\delta}} = \sqrt{\sigma_{\bar{\delta}}^2} = \frac{0.26136}{\sqrt{A/n^2}}$$

$$Z = \frac{\bar{d} - \bar{\delta}}{s_{\bar{\delta}}}$$

L'area studiata

è finita (perimetro=p)

$$\bar{\delta} \approx \frac{1}{2} \sqrt{\frac{A}{n}} + \left(0.514 + \frac{0.412}{\sqrt{n}} \right) \frac{p}{n}$$

$$s_{\bar{\delta}}^2 \approx 0.068 \frac{A}{n^2} + 0.035 p \sqrt{\frac{A}{n^3}}$$

